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Are the Trolley Companies Awakening to the

UTILITY OF THE MOTOR BUS?

Will Trolley Companies be Forced to Accept the Bus as a Means of Regaining Public Good-Will, or Will They Continue to be Antagonistic Toward This New Link of Our Transportation System?

What the Trade is Doing Towards Developing the Motor Bus

PROBABLY no other development of the industry offers as much food for thought as the potentialities of the motor bus. The parts manufacturer, the complete vehicle builder, the body maker, and practically every dealer in the country is interested in the motor bus field. Last, but not least, the general public is displaying a great interest, but from an entirely different angle. It is not our purpose to prognosticate the potential market for the sale of motor buses, but it is safe to assert that the number of buses which can logically be employed in this country within the next ten years will depend entirely upon the manner in which the industry will develop this market.

Opportunity for the Serious Minded

To the average layman, the bus appears as a perfected vehicle. To the motor truck manufacturer, in many instances, the motor bus business is a welcomed tide-over, awaiting the time when his regular standard product will again require his entire production facilities. The parts manufacturer is taking the bus business more seriously. Some of the more prominent companies are developing units especially designed for this work. In this respect the engine, axle, transmission and body builders are the most conspicuous. Many parts manufacturers see a wonderful opportunity before them in the bus field. Some do not take the bus business seriously. They presume that present units need just a little revision; that the building of a motor bus is a simple job for any designer. As one parts manufacturer expressed his view of the ultimate bus job—"All you have to do is to make a cross between a yellow taxi and a Fifth Ave. bus and there you have it."

With many of the truck manufacturers, the "opportunity" resolves itself into a case of selling some of their standard chassis models to an immediate market. A few unit manufacturers are taking the future in the bus field into consideration, and are carrying on development work which will in time entitle them to the distinction of being producers of special motor bus units, which will meet the specific requirements of this class of transportation.

The greater portion of the trade, today, is simply considering the bus as a means of keeping the wolf from the door, temporarily.

The dealer is also guilty in this respect, but can he be criticised if he takes advantage of an opportunity to sell a regular truck chassis, in lieu of special bus equipment? Of course not, especially if he hasn't anything better to offer. But in time all this will be changed.

It is enough to state that much of the equipment now employed will give way to specially built units which will adequately meet the requirements of each class of service, whether it be in the city, suburban, school or as feeders to existing trolley lines. The prospects for a profitable business are assured, but only to those who will cultivate the present business carefully and with extreme caution. Otherwise the comeback, which is sure to develop as a result of a too hasty attempt "to get while the getting is good" will be dangerous.

Are the Traction Companies Interested?

The point at issue, however, is whether the trolley companies are interested in this work which the automotive industry is doing. Whenever buses are mentioned to the average traction official, he is inclined to berate the whole automotive industry for its temerity in encroaching on the traction company's "right to live." Perhaps the industry has given him reason for antagonism in this respect. Perhaps the industry has gone about this thing in the wrong manner.

It has, no doubt, in many respects. In the first place, it has indiscriminately sold motor buses, so called, to a host of irresponsible individuals whose sole purpose is to get rich quick at the expense of the traction company. In many instances these individuals are insufficiently financed. Too many instances can be cited where these lines have met with failure because the wrong sized vehicle was employed. Numerous other causes can be attributed to their failure, but they do not enter into this picture.

The condition which has worried the traction companies is that suddenly, almost without warning, the motor bus swooped down upon them. Like an avalanche completely enveloping unsuspecting people, it came upon them unan-

nounced and found them unprepared. The traction companies were helpless as there was no guiding precedent. As a result they became afraid of it. On all sides motor bus routes began to spring up. Every time traction officials met they compared notes. The result was that they began to consider the newcomer as some industrial giant that would sooner or later wipe them off the map. Consequently propaganda detrimental to the motor bus began to appear in all quarters. The traction official soured on the motor bus and many of them are still indisposed to consider the motor bus favorably.

But some traction officials are beginning to see the light. They are watching with eagle eyes the development which is going on in the automotive industry relative to bus construction.

It is a serious situation for the trolley companies these days. In the first place, street car companies have not been able to expand their facilities to meet the rapid growth of population in our big cities. The difficulty of handling the crowds during rush hours in any of our larger cities is only one of the problems of the traction companies. Take the matter of further expansion in outlying districts. Can the traction interests afford to lay tracks, install wiring, etc., to these outlying and sparsely settled sections? Under present conditions a program of expansion would be suicidal for most traction companies, because most of them are now laboring under tremendous financial burdens, due to numerous causes.

Already a score or more electric railway companies are operating motor buses as feeders and auxiliaries. But there are over nine hundred electric railway operating companies in this country.

Does this not indicate that here is a tremendous market for motor buses provided the proper equipment can be supplied?

The bus has won the confidence of the public. It has made good in the public's estimation. On the surface the trolley interests are antagonistic, not because they do not believe the bus will solve most of their problems but because of the manner in which the bus has cut into their rapidly dwindling profits. The "wild-catters" have entered into direct competition against them. The traction officials saw fit to ask the Public Service Commissions to control the independents. The jitney bus should not be allowed to operate where a well organized bus line or trolley company is giving adequate service.

California's Latest Contribution in Motor Bus Construction

An 8-wheeled bus of many unusual features, designed and constructed by R. B. Fageol, of the American Highway Transportation Co., 350 Post St., San Francisco. The seating capacity is for 20 passengers. The drive is through two sets of worm gear axles and four wheels. The four front wheels steer in unison and all wheels and tires are of the same dimensions, permitting low hung construction.

With all these difficulties placed in the background it will be seen that the street railway companies undoubtedly are the biggest potential buyers of motor buses. But they must be sold direct. Establishing independent bus lines in direct competition with already existing trolley companies will not relieve the difficulties under which the average trolley company is laboring today. The popular belief that the bus is the competitor of the trolleys is erroneous. Both forms of transportation have for their main purpose the rendering of a public service. As such they must be utilized in a way that the public will derive the greatest benefit from each type of vehicle.

In summing up the situation, it appears that the market for motor buses in the trolley field hardly has been scratched. But this market cannot be sold over night, especially under the circumstances which accompanied some of the past attempts. Politics, franchises and numerous other contingencies must be considered carefully. This market will yield big returns. It will require the best efforts of the industry, however, to systematically cultivate it. It will require the designing of special equipment which will meet the requirements of peculiar conditions. It will require a survey of each installation.

And last, but not least, it will necessitate constant vigilance on the part of the motor truck industry to keep abreast of the times. The motor truck industry has the stronghold in the field now. It has shown the traction interests that it can build buses. Its years of experience in the manufacture of motor trucks and the internal combustion engine has developed a fund of knowledge which the trolley engineer does not possess.

But unless the automotive industry keeps the upper hand in the development work, the chances are that some day it may be trailing along in this respect, because the traction interests may deem it necessary to develop buses which are entirely fitted to their requirements.

He Knew Something Was Wrong With It

We will call him Murphy, though that isn't his name. But it will do as well for this story, which is absolutely true.

It happened last summer. Murphy is a motor truck operator in Philadelphia and has used ——— trucks for a number of years, and he has always been satisfied with them.

This summer he came into the retail salesrooms of the ——— Company in Philadelphia and said that he wanted a new truck and that he had an old one to trade in. They looked the old one over and, after a careful appraisal, offered Murphy an allowance of $450 on the purchase price of the —— truck.

"Nothing doing a-tall," said Murphy; "that won't get the business. Blank & Co. (naming the dealers in another truck up the street) have offered me a lot more than that for the old truck, and I'm going up and do business with them."

Murphy left; there was nothing else the ——— people could do, for their allowance on the old truck was high even at $450. Murphy had always been a good booster for their truck and they hated to see him go, but it would have been poor business to have done otherwise.

Imagine their surprise a day or two later on seeing Murphy again coming in the door. They didn't know what to make of it, but Murphy soon told them the story. Said he:

"Give me an ——— and allow me $450 on the old truck. I know you're wondering why I came back, so I'll tell you.

"I went over to the other place, just as I said I was going to, and I was all fixed to buy their truck, too. But I thought I'd see how much they would really allow me for the old bunch of junk I want to trade in, and before I had finished they had agreed to allow me one thousand dollars.

"That's where I balked, for I knew that if they were allowing me a whole thousand dollars for a rambling rubbish heap like that old truck that there was something wrong in the deal somewhere. I don't just know what it is, mind you, but when a concern can allow me a thousand dollars for an old truck that isn't worth a cent over $350, then there's something wrong and there would be a kick back somewhere, some day.

"And so I'm coming back to you, for I know that your dealing is on the square, and I'm afraid of that other kind."

* * * *

It's too bad that there aren't more men like Murphy buying motor trucks and more retail dealers like the Philadelphia ——— sales force. It ought not to take an especially wise man to realize that, when a company allows him far too much for an old truck in a trade-in, there's something wrong somewhere. But, unfortunately for the retail end of the motor truck industry, there are far too many truck prospects who see only the immediate cut price.

Save the Owner Money by Selling Him a Lubrication Service

Show Him That It Pays to Keep His Trucks Lubricated. Read How This Dealer Made Money and Satisfied His Customers

Proper Lubrication = Less Depreciation

By A. V. COMINGS

NINETY per cent of the mechanical troubles which shorten the life of a motor truck and which take it off the job at the most inopportune times are due to faulty and insufficient lubrication.

No man with knowledge of the real facts will dispute this statement, for records show that wear, breakages, depreciation—all are hastened and in most cases trace their origin to faulty lubrication in various parts of machine.

Yet with this big fact staring them in the face and urged upon them from many quarters, motor truck owners very often totally disregard the importance of it and pay little attention to that kind of careful lubrication that will pay big returns on the amount of money it costs. They leave the lubrication to the driver, and there are few truck drivers who are willing to devote the time and painstaking care to the job that are necessary to do it thoroughly.

Usually the driver is expected to spend Saturday afternoon or some evening after working hours in oiling the truck. It's "extra" work, for which he does not consider he is paid; he is in a hurry to meet his best girl or get into a game of pool, and the result is that he gives the truck a hasty once over, squirts the oil and the grease where it will make a showing and beats it.

A truck handled this way will invariably begin to deteriorate soon after it is put in service, trouble will develop, and the owner will bear down on the dealer with a long list of complaints for which the owner blames the truck, when in reality it is all the fault of the insufficient lubrication.

Lubricating a motor truck the way it has to be lubricated to insure long life and efficient service is no job for a tired driver. It would be quite as sensible to expect a locomotive engineer, after a hard run over his division, to accompany his engine to the roundhouse, there to go over it, lubricating every bearing, or a street-car motorman to do the same with his car after he runs it into the barn at night. It is too much to expect.

Motor truck dealers who have made a real business of selling their owners on a definite method of lubrication, for which they pay a regular sum, are finding that this method makes friends for the truck they sell. For that truck stands up better in its daily work, it is on the job a larger percentage of the time, and the owners are getting greater truck satisfaction and a lower cost per ton mile than they have ever had before.

It is not difficult to sell the average truck owner on this matter of proper lubrication. Here's the way one dealer did it, out in Columbus, Ohio.

He had sold one of the trucks he handled to a wholesaler who had quite a fleet of trucks in service, all of other makes than this one. In selling this truck the dealer said to the buyer:

"This truck I am selling you will give you the very best of service if it is kept well lubricated, and to make certain that it is kept properly lubricated I want you to have the driver bring it around to my shop every Saturday afternoon, so that my men can attend to this job the way it ought to be attended to. For this service I will charge you $75 a year; it will be the best investment you can make.

The wholesaler agreed, but when his transportation executive was told of the arrangement, he went straight up in the air and said "Nothing doing!", for the drivers of all his trucks were supposed to take care of that matter of lubrication, and to make an exception in this case would upset the whole plan.

This didn't daunt the dealer, who quietly made arrangements with wholesaler to have the latter accompany him on a tour of inspection of the entire fleet to see how well the men were doing the work.

What that fleet owner found caused a small sized typhoon in the transportation department of that business, for the dealer showed him truck after truck that was not being lubricated the way it should be, and it didn't need much argument to show the owner that he would save thousands of dollars in depreciation and repairs and get more efficient transportation into the bargain by having his whole fleet regularly lubricated once a week at a cost of $75 per year per unit.

Today that fleet is being gone over weekly by men who understand the lubrication job, who are paid for the time they put in on the work, and whose work is inspected when they are finished so that when a truck leaves the shop the owner **knows** it will deliver its most efficient work during the week to come.

Repair bills on that fleet have dropped to a minimum, and owner of the fleet is satisfied to pay price for lubrication, rather than greater amount in costly repairs.

The motor truck business will enter on a new era in 1922. New methods are bound to supplant many of the old ones that have not stood up under the test. Buyers of motor trucks are going to demand more efficient service from motor trucks in the future.

And this matter of lubrication is one that the dealer should insist upon. The owner must be made to see its importance, and the dealer is the one to sell him on the idea of keeping his trucks fit by proper oiling. The time has passed when business men can afford to buy transportation units that cost thousands of dollars and abandon them to the careless handling of men who have no dollar interest in their proper upkeep.

Do You Know the Facts?

IN talking with the sales manager of a large motor truck concern, the sales manager was asked the question, "How's business?" "Rotten," replied the sales manager. "Never was worse. Dealers are hardly doing anything. I just returned from a five weeks' trip in the south. The best dealer down there in Chattanooga is hardly moving a single truck."

"How do you know he is **the best dealer?**" he was asked. "How do I know it?" he answered. "The way anybody would know it. By his place of business, its appearance, location, capital, etc."

"Have you any idea of how many motor trucks other dealers have sold in Chattanooga?" he was asked.

"No, I haven't," he replied, "but what's that to do with it?"

"Simply this," said the interviewer, "there are other dealers down there who **are** moving. Why should you permit yours to fall asleep? There are reports that you can get which will tell you the exact number of motor trucks sold in Chattanooga, and the number of each make and size. How can you expect to set any quota for your dealers unless you know how many they should sell? How can you expect to paint a mental picture of what they should sell in your territory unless **you know** what's going on?

"No, the way you acted was this—you had been receiving letters from all sections and Chattanooga as well, that business was bad. At last you couldn't sit here in your office any longer waiting for the buzzer to ring and to go in and face the old man. So you determined to take a five weeks' trip and get away from the office.

"You went down to Chattanooga prepared to find things bad and you assured yourself that everything was as you had imagined, and consoled yourself that the fault was not your own. What you should have done was to have gone in to see your dealer and to tell him what he should be doing and what he must do to hold the line.

"Examine the sales averages of the big companies who set quotas for their dealers and compel them to live up to them, and you will find a remarkable record of achievement in a period when weaker companies are wailing about poor business.

"These successful companies talk to a dealer pretty much in this strain,—'Jones, you're a good fellow—we've always liked you. That's why we gave you our line. We like you just as much today. But if you're going to stay with us you must get out and step. You are one little cog in a mighty big machine—that is our business. If you slip, the machine will rattle, and we won't have any rattles. We have a large plant to keep going, and thousands of workers to take care of. The business must come in. In your territory you should sell so many trucks.'

"That's all there is to it, but the trucks are sold. Jones gets busy."

Fires Men Who Overload Trucks

"THE driver in my employ who is caught overloading his motor truck is fired, and that's all there is to it."

This is the iron clad rule made by Joseph X. Galvin, president of the Pennoyer Merchants' Transfer Company, of Chicago, a man who knows commercial transportation from A to Z, who operates a fleet of 22 motor trucks and 17 semi-trailers, in addition to horse-drawn trucks which require a stable of 78 horses. Mr. Galvin is also president of the National Team and Motor Truck Owners' Association.

Joseph X. Galvin
President National Team and Motor Truck Owners' Association and President of the Pennoyer Merchants Transfer Company, Chicago.

His company makes money, in good times and bad, because he knows haulage costs and uses the right kind of transportation unit for each particular job the company undertakes. He knows what his motor trucks can do, what they will earn for him and what happens to them when they are consistently overloaded. And he says:

"Don't overload your motor trucks."

"In our working organization," says Mr. Galvin, "the driver of the motor truck is the man responsible for the load he carries, and if he overloads his truck he is fired. The dispatcher or the foreman has no authority over him when it comes to the amount of load he carries; when it reaches the maximum weight allowed to the truck he is driving, he calls a halt and no one can order him to pile on more.

"That is the way we keep rubber on our truck wheels, our truck springs in good shape and our trucks in continuous service.

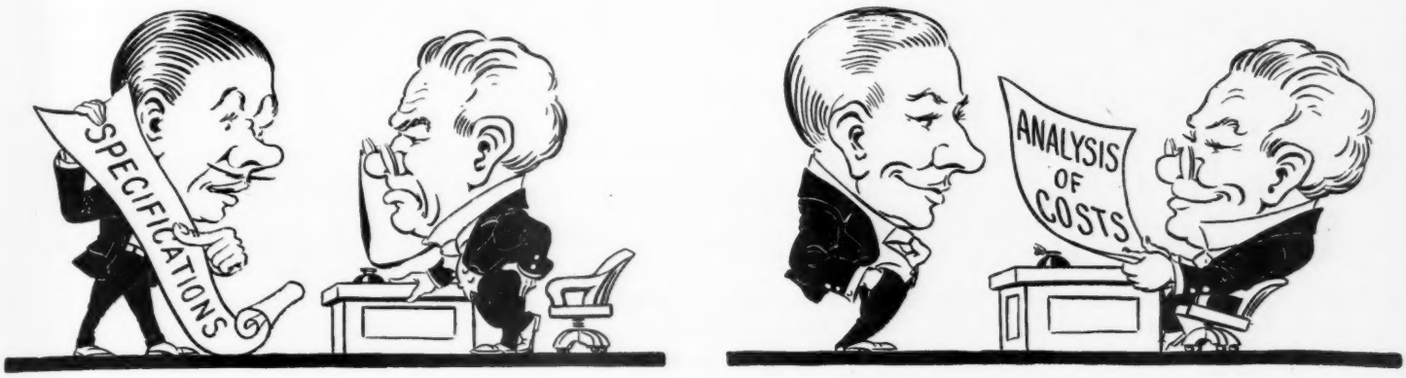
"Don't you let anyone tell you that they can make more money by overloading their motor trucks. They are only kidding themselves. The extra cost will show up sooner or later, and will have to be counted on the balance sheet. We keep a very accurate cost on every type of hauling we do, on every job, and we know what our costs are and the causes that make them rise or fall.

"And we won't let our men overload their motor trucks. That's final. For we know that it doesn't make us money—it costs us money."

There is advice founded on the actual day by day experience of one of the biggest men in the cartage business. It is the kind of talk that should be handed on to his customers by every motor truck dealer in the country.

Why Some Dealers Are Not Selling Trucks

In This Article an Incident is Related Which Happened Recently in a Large Mid-Western City. It May be Happening Right in Your Own Establishment



Here's a Lesson Which Both Manufacturers and Dealers Should Learn

THE buyer in this case was a large printing house. It was in the market for a motor truck. The president of this concern being a keen analyst of business practices, determined to test a theory of his, that while millions were being spent for advertising, the results were often jeopardized by inefficient follow-up sales methods.

He requested his secretary to write to fifteen national advertisers of motor trucks to the effect that his concern was interested in purchasing a motor truck. Then he awaited developments.

Within a few days replies began to come in. Seven were form letters. Three were personally dictated. Some briefly stated that the local representative would call on him. NONE OF THEM supplied the local distributors' names or addresses. Five of those addressed DID NOT REPLY AT ALL.

Partially convinced that his theory was correct, he determined to further investigate the condition. He interviewed the local men who called to sell the trucks they represented. He requested his secretary to take down their solicitations one by one.

In every case, these men discussed parts and equipment, unsprung weight, torque, horsepower, durability, and compared the construction of their trucks to others on the market. Motors, transmissions, axles, steering gears, all were described and their maker's reputations elaborated on.

This buyer received the impression that all the salesmen who called had to sell was the reputations of the various manufacturers whose parts were used in the assemblies.

One fact puzzled him greatly. He had not heard from a certain prominent manufacturer who was a large national advertiser and to whose convention he had been invited some time in the past.

A week afterward, however, a card was sent in to him. On it appeared a name, but no address and no business connection. Puzzled as to the reason for the individual's visit, he requested his secretary to show him in. The stranger appeared. He sat down, at the manufacturer's invitation, and took from his pocket a typewritten document. On the papers was typed closely written information. The man commenced to read.

The manufacturer sat pop-eyed. He heard an exact report of the tonnage that had moved over his shipping platform. He listened to an analysis of costs. And then he heard the stranger tell him that if he used a certain capacity truck, he could save a certain amount on each trip to the post office or freight depot.

The manufacturer shook off his amazement. "Who are you," he asked the stranger, "and whom do you represent?"

"The ——— Company," replied the visitor, naming the large truck manufacturer who had not replied to his communications.

"I have spent several days on your shipping platform," continued this truck salesman, "and I have found some conditions in which you might be interested. In this report which I am going to present to you, are embodied some suggested economies in arrangements and routings.

"But I would advise you **not** to buy a motor truck **now.** The Central Boulevard over which you must carry your shipments is very crowded. There are frequent stops and until the new post office is built, you can truck your shipments more economically by jobbing the work out, than by doing it yourself."

The manufacturer who tells this story says that he was so amazed at the candor and honesty of this concern that he had bowed out its representative from his office before he woke up.

Then he talked it over with his partner and both of them agreed that they would buy a motor truck anyway; that there was a certain advertising value in the operation of one and a satisfying stability in conveying their own products back and forth. You know which salesman got their order.

Motor truck salesmen are still trying to sell trucks on the basis of how they are constructed mechanically, rather than on their transportation achievements, or their adaptability to customers' requirements. There is a lack of positive salesmanship in the majority of cases. No originality of approach or uniqueness of thought is employed. Not enough brain strategy is used that will overcome obstacles and create sales.

DEALERS:

It Pays to Post Owners on Winter Dangers

Suggestions and Advice Appreciated by Owners

Check Up Trucks in Service Station

This Article Also Contains Details on Winter Service With Which Every Member of Your Organization Should be Well Acquainted

By MARTIN J. KOITZSCH

WITH the coming of the winter months, the dealer automatically assumes a new responsibility. Perhaps this statement would be expressed more properly if it were said that the dealer, who wishes to render patrons the best of service at his command, begins to take cognizance at this time of winter obligations.

To the dealer, service manager, or anyone directly connected with truck operation, an outline herein of cold weather precautions may seem superficial. The need of giving special attention has been called to their attention so frequently that its very importance has been lost through constant repetition. Or, the idea has been conceived that everyone is acquainted with all the difficulties that winter obviously creates.

In just such conclusions as these, lay the menace to hard-earned dealer reputations and prestige. If statistics showing the vast amount of ignorance among owners and drivers as to cold weather dangers were available, many a dealer would receive the surprise of his life. It is a fact that a valuable service can be rendered owners through cold weather maintenance operations. The reward will not only be that of maintaining owner satisfaction and respect for organization but will result in increased business both in service and sales of equipment. It, therefore, behooves all dealers to start now and make arrangements for properly attending to this important end of service.

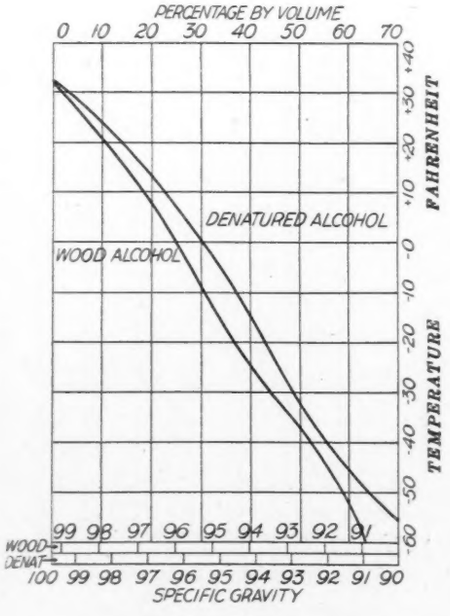
Educate Owners to Avoid Danger

Those men of an organization who frequently contact with the owner could do much in an educational way by explaining how to diagnose cold weather troubles; how to anticipate them; how to prescribe the cure in the event that the damage has already occurred; how certain actions of the mechanism indicate trouble and how the symptoms are easily recognizable by the erratic performance of the engine. Any number of timely suggestions presented at the opportune moment will not only be appreciated by the owner but will eventually educate him to the economy of attending to these matters before they develop into serious damage. Exact details of what every owner should know along this line are treated later in this article.

In the practical rendition of winter service every truck that enters a dealer service station during the winter period should be gone over thoroughly with a view of checking up all those parts affected by winter climate and conditions before it is permitted to leave the station. It will be found in most instances that recommendations for certain winter equipment can be made. Business obtained from this source alone will warrant the labor consumed in inspection.

Inspect Systematically

As a matter of system, completeness and simplicity checking procedure should



Freezing Temperature Curves of Alchohol

Correct density of solution may be determined by comparing hydrometer test with curves

be grouped into four general classes; namely, lubrication, cooling, carburetion and electrical systems.

The following is a treatment of each classification separately:

We all know that oil tends to thicken when chilled. Hence, it may be advisable to thin the grease in the transmission, universal joints, axle and other parts distant from the engine. In order to overcome the resistance of cold oil in transmission to the engine, depressing the clutch pedal when starting has been found very satisfactory. This completely disconnects the transmission from the engine and assists the starter by reducing the load on the engine. As a result of priming too much, oil in the crankcase is rapidly diluted with raw gasoline; also the operating temperature of an engine has a marked influence upon the rate of water formation in the crankcase. This latter condition is the result of leaky combustion chambers, which is due to natural conditions of wear. With water in the oil there is not only a tendency of emulsification but the danger of freezing with possible serious damage to the water pump is ever present. In view of the conditions it is therefore a good plan to change the oil every 300 to 400 miles, particularly if the truck is operated every day. A kerosene wash out occasionally will do much to prevent old oil from contaminating the fresh.

Cooling System

Addition of alcohol, in proportion to temperature requirements, to the water of the cooling system is a commonly used anti-freeze mixture.

The accompanying curve will give all data as to quantity of alcohol to be used.

Although alchohol has an established reputation as one of the most practical precautions against freeze-ups, it is gradually being succeeded by specially prepared patented solutions of later day development. As some of these solutions are recommendable both in that they do not evaporate as readily as alcohol and that they do not have a deteriorating effect on the metal and rubber passages of

the cooling system, an opportunity is afforded the dealer to carry a reliable make. The amount of revenue to be derived from this source if intelligently advertised to the owner is not a mean one.

In very cold climate kerosene may be used exclusively. Under no condition should a truck be permitted to be driven from the garage before the engine has had an opportunity to completely warm up. In order to prevent loss of anti-freeze solution it is advisable to inspect radiator for leaks and replace old hose with new, using shellac on all connections. Where belt is not connected with generator it may be disconnected from fan in extremely cold weather. Conservation of heat is possible by employment of a radiator and hood cover.

Carburetion System

In cold weather the gasoline is not so volatile and in addition has to pass through manifolds, which being cold act as condensers and cut down the amount of fuel reaching the cylinders in gaseous form. To insure a highly volatile mixture reaching the combustion chamber it is necessary to either produce a warm condition in the carburetor, manifolds and cylinders, or to make the explosive mixture sufficiently dense to insure a proper volume of gas. The easiest way to accomplish this is to keep the truck in a warm garage. Otherwise carburetor adjustment is necessary. Another way of getting heat to the carburetor is through the installation of "hot spots" on the intake manifolds. These should be of the replacement type. Some systems have an extra air valve; this should be closed in cold weather. Priming should be done judiciously. Do not prime too much. Do not permit the choke to remain out longer than necessary. Check up the entire fuel feed system for the correction of leaks. Test mixture and examine condition of plugs and valves.

Electrical System

The battery is the most affected unit of the electrical system in cold weather. A heavier load is required of it and it requires special attention. Check up the entire wiring system including connections for electrical leakage. There is generally a big wastage of current through such leakage. See that the battery is properly charged; this will prevent freezing. Check specific gravity frequently. Keep battery dry and rigidly attached. If generator is not regulated automatically make necessary adjustment to boost charging rate, as it is subjected to a heavier drain in winter. Amount of adjustment can be determined by referring to the ammeter. Examine generator thoroughly. Replace brushes if necessary, undercut mica insulation between commutator segments if too high, and clean and oil generally. Inspect starting motor in a similar manner.

Other suggestions not included in the four classifications are summed up as follows:

It is not possible to operate trucks successfully and safely on snow and icy streets unless the brakes are properly adjusted and fitted with new lining if necessary. All parts of the braking system should be well oiled. See that the steering gear functions accurately and easily by tightening and lubricating. Align wheels.

Improper attachment of chains may ruin a tire. Do not tighten chains. Sufficient creep should be allowed to prevent continuous wear in one place. Heavy rain makes the roads as dangerous as icy weather so that one or more chains should always be carried on the truck. Proper inflation pressure is important to the well being of chain equipped tires.

The formation of moisture or steam on windshield hampers the vision and is often the cause of serious accidents. The market offers innumerable makes and various designs of windshield cleaners. Advantage should be taken of this equipment sales opportunity, along with solution, chains, radiator covers, etc.

In addition to the above mentioned suggestions and hints, salesmen and service men through the experience of others gradually acquire a host of helpful ideas that they can pass on to the owner if they but will. Make an effort to furnish at least one good suggestion every time the owner comes in contact with your organization. It pays.

California Road Test Started

At last, after all the time consuming preliminaries, incident to the planning, designing and constructing of the concrete test highway at Pittsburg, California, have been completed, the fleet of Government-owned 3½ and 5-ton trucks is off on the wonderful endurance run. It is expected that the results of this run will include very interesting data as to concrete road construction, which will in all probability govern this type of road construction in the future.

The trucks are equipped with a governor that keeps them down to twelve miles an hour, and the weight of the trucks and load totals 14,500 lb., although this will be increased to 20,000 lb. before long. The illustrations show the trucks running in both directions around the track. It was decided to run half in one direction and the other half in the opposite direction.

The success of the various testing instruments installed in the tunnels constructed under the road way has far exceeded the expectations of the engineers in charge, and by means of them many facts not known before are being obtained. A more detailed account of this project appeared in the November issue of the COMMERCIAL CAR JOURNAL, page 77.

Trucks Keep Pace with Farm Prosperity

A farm survey by the General Motors Truck Co., Pontiac, Mich., reveals the fact that the states in which the value of farm crops per farm is highest have the greatest percentage of trucks, regardless of lack of improved roads and other deterrent influences.

The average value of products the country over in 1920 was $2900 per farm. Nevada topped the list with $10,378 income per farm. Mississippi came last with an income of but $1,101. Seventeen states reported an average value in excess of $4000. Oddly enough, these seventeen states in the exact order have the greatest percentage of motor trucks in farm use, the survey shows.

Commencement of Test on California's Concrete Test Highway

Lower left: One-half of the trucks are operated in one direction, and the other half in the opposite direction. This view shows the trucks going around one of the curves which is superelevated so that a speed of 25 miles an hour may safely be made. Upper left: A fifty ton set of scales has been installed so that the trucks and loads may be weighed. Right: Showing the fleet of motor trucks soon after the test started

Specialization in Service is Becoming More Apparent in Industry

Special Body and Cab Work

Hoist and Winch Service

Main Building of the Auto Truck Equipment Co.

By A. V. COMINGS

MOTOR truck operators of Pittsburgh, Pa., and vicinity, have at their disposal the most completely equipped individual plant plant in the country for fitting the motor truck chassis with body and other operating equipment designed to make trucks efficient and economical in transportation work. This plant, owned and operated by the Auto Truck Equipment Company, was designed and built for the express purpose of giving motor truck owners this service, and is therefore of particular interest as an example of the specialization that is coming into this industry. The whole effort of the entire sales and shop organization is devoted to body and cab work along special lines, to the application and servicing of hoists and winches, and to the detailed equipment of trucks for all manner of specialized service.

Modern Service Building

The main building is of brick, steel and concrete. With walls almost entirely given over to windows and with a skylight the entire length of the structure, the interior is flooded with a maximum of natural light during the day time. This main unit is 140 feet long by 80 feet wide, with an attached office unit 30 feet by 20 feet. The roof of the main building is supported entirely by steel girders, so that the floor space, save where there is machinery, is clear of obstruction. The floor is of concrete, six inches thick.

The shop is equipped with a complete outfit of wood working machines for handling body work of all kinds, and with forges, etc., for handling the necessary iron work needed on new and repair work.

An overhead trolley runs the length of the shop on one side, and a similar trolley from the body storage shed in the rear of the main building makes it possible for one man to bring in the heaviest steel dump bodies with ease. This trolley has branches over every section of the storage shed, connecting with the main line by switches, so that a body in any part of shed may be picked up with ease.

A. M. Hauber
President and General Manager

Power for the mechanical equipment is furnished at a very cheap figure by a natural gas engine.

Twenty-five men are kept busy during normal times and more can be used when work is rushing.

The development of business for this type of shop presents an interesting sales angle. The company has the exclusive sales in 26 counties of Pennsylvania, West Virginia and Ohio of all the lines it carries, including the Wood St. Paul hydraulic hoist, Mead-Morrison winches and Simplex hand hoists.

Ninety per cent of the business of the company comes through the truck dealers, not only of Pittsburgh, but of the country surrounding the Smoky City within a radius of fifty miles.

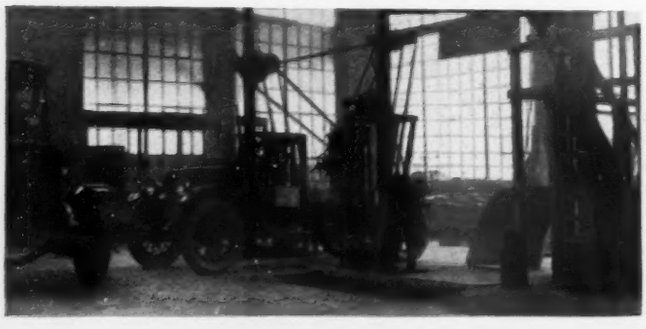
A. M. Hauber, president and general manager of the company, spends a part of his time out in the territory among dealers selling them on the idea of using his specialized service, and in addition a salesman is kept on the road constantly selling the service to both dealers and fleet owners.

Large Installations Handled

Several installations of special body work on entire fleets have been accomplished by the company, one of the most notable being the equipment of the Youghogheny Coal Company's fleet of coal handling trucks with steel dump bodies and hydraulic hoists.

Dealers are given a small commission for their part in selling truck customers on the service, a sales expense which, of course, is a legitimate part of the price for the work performed.

In addition to the main buildings, the company owns a large amount of surrounding property on which additions may be built as business warrants. A



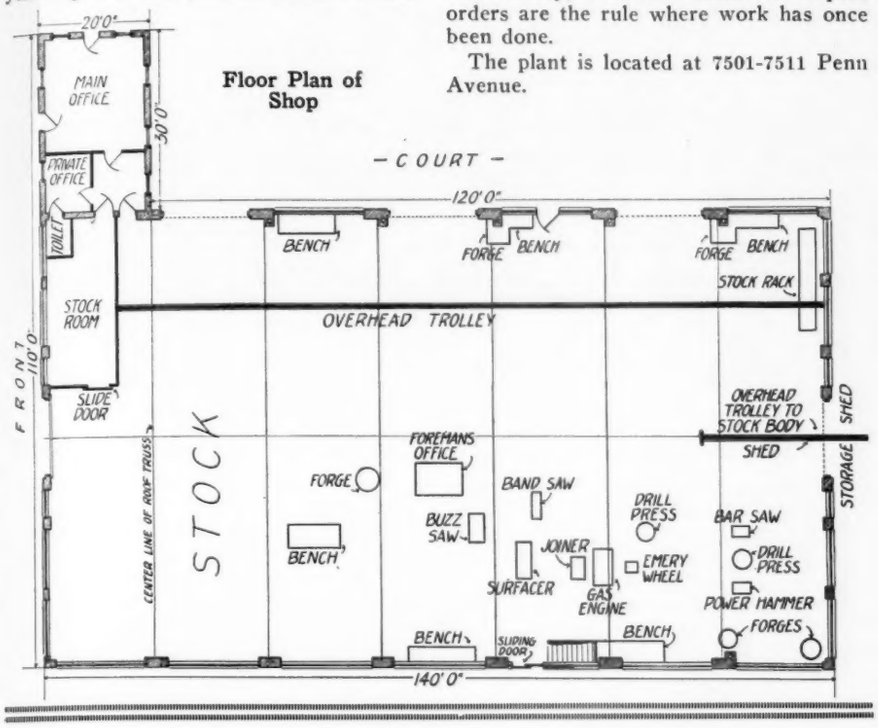
Woodworking Shop

Receiving Court

large court, covered with gravel and kept clean and attractive, adjoins the main building on one side for the storage of trucks awaiting work or when completed and ready for delivery.

The company was organized nearly two years ago by the present president and general manager, A. M. Hauber, and business has grown from the very beginning. First class workmanship and standing squarely behind all work turned out by the company has made the company solid with its customers throughout its territory, with the result that repeat orders are the rule where work has once been done.

The plant is located at 7501-7511 Penn Avenue.



Floor Plan of Shop

"Satisfy the Owner"

INDICATIVE of the growth of the motor truck business in San Francisco is the progress that has been made by the Mack-International Motor Truck Corporation in the distribution of Mack trucks. Under the management of R. H. Morris this concern has grown from a somewhat obscure beginning to the first rank among exclusive motor truck representatives. The development has been so pronounced that recently, in order to obtain more spacious and modern quarters, the company removed from the location at 2020 Van Ness Avenue, to a new building at the southeast corner of Eleventh and Howard Streets, which it occupies exclusively.

The new home was designed and erected solely for the purpose of rendering better sales and service facilities to present and prospective owners. The building, of concrete faced with brick, is of very pleasing appearance. It is a one-story structure with a basement of full dimensions, so that the aggregate floor space approximates 30,000 square feet. On the main floor are located the salesroom and offices, the service and repair departments and the stockroom. Because of the grade in Howard Street, the salesroom, entrance to which is on Eleventh Street, is elevated above the street level, which provides additional display advantages.

Truck operators will be interested particularly in the arrangement of the service department. Upon driving into the building the operator is met at the door by the service superintendent, who inquires as to the needs. If it is a minor trouble that requires attention there is ample space in which to place the truck without blockading the entrance while the work is attended to. If the difficulty is more serious and it is necessary to use the shop equipment, the operator leaves the truck and it is taken into the shop behind closed doors, where none but the employes may enter. The equipment of the shop includes a variety of new and modern devices. Six trucks may be accommodated over the pits at one time. The pits are electric lighted and ventilated. To facilitate operations a traveling crane is provided. The track is the entire length of the shop, so that it is a simple matter to remove a motor from the chassis and place it wherever desired. An advantage which the mechanics appreciate is the lighting facilities. The entire shop is as near "daylight" as it can be made.

Space Economy in Lay-out

There are a number of unusual features in the arrangement of the stock in the store room, and a number of special racks have been built for the purpose of carrying various parts. One rack is devoted exclusively to springs and axles. The axles and springs carried on the ends are leaned at such an angle that there is no danger of them falling over. This greatly economizes space. The parts are divided into groups: Group 1 are all the parts for the motor, 2 for fuel system, 3 exhaust, 4 cooling, 5 ignition, 6 oiling, 7 clutch, 8 transmission, 9 drive, 10 control, 11 rear axle, 12 front axle, 13 springs, 14 frame, 15 cab and body.

Each section of the bins is numbered on the ends, and each vertical row is numbered and each horizontal row is lettered, which makes it very easy to find any part wanted at once.

A special rack carries the full floating axles, the axles with flanges being supported in steps, and those without flanges taking up the remaining space of the rack. Brake pull rods are carried on the top of the rack, at a level higher than the heads of the stock men. There is a special rack for large pieces such as crankcases, brake drums, and radiators.

A pyramid rack carries drive shafts on pegs on the outside of the rack, while brake pull rods are carried on the inside of the rack, thus utilizing all space possible.

All heavy parts are carried near the shipping bench and smaller parts farther away. Because of this fact there is less carrying of big parts. Heavy assembled parts are stored in the basement. They are all crated ready for shipment.

One corner of the stock room just inside the door where the shop men come to obtain parts is devoted to cap screws, bolt nuts, washers, hose clamps and other small parts that are continually in demand by the shop men. All the stock man has to do is to remove the article from its compartment and hand it through the door, thus eliminating all walking on the part of the stock clerk.

New Mack Building and Service Station, San Francisco. Note How the Salesroom is Elevated Above the Street Level

If it is necessary to use shop equipment the operator leaves the truck and it is taken into the shop behind closed doors where none but employes may enter. These doors can be seen just back of the four trucks

Will the Factory Take the Service Managers' Advice?

Many Problems Were Discussed Frankly at the Service Managers' Convention. Factory Must Take the Initiative in Educating the Dealer. Parts Prices Should be Reduced. Flat Rate Plan Will Build Confidence.

Service Manager Should Have Voice in Design of Chassis

ANYONE who attended the two-day convention of the Factory Service Managers, held under the auspices of the National Automobile Chamber of Commerce, at their headquarters, New York City, undoubtedly feels amply repaid for the time spent. It was just about twice as good from every angle, except perhaps in point of attendance, than any previous gathering of factory service men. The pertinent fact driven home to those men, who are usually supposed to shoulder the blame for everything that goes wrong about a motor truck or passenger car, is that they are not working for the general manager, the sales department, or the stockholders of their company, but for the ultimate consumer—in other words the man who eventually pays the bills.

The service problem resolves itself finally into whether or not the customer is satisfied. All the systems, forms, special machinery and tools are of little use if the vehicle was incorrectly designed in the first place. Neither is the correctly built machine immune from service wear and tear. Some day it will need service. And it is the **factory's duty to see that that** service is available.

Although the various problems discussed related specifically to passenger car service, the fundamentals and basic principles governing the application of service in either branch of the industry are identically the same. The important thing which the industry must fully realize, as a unit, and not in the occasional instance, is that service will in the future sell more cars and trucks than the initial cost of the vehicle. The service problem has been considered in a cursory way by too many manufacturers in the past. A glaring example of this disposition on the part of the manufacturer is evidenced by his disinclination to put a stop to the dealer's practice of carrying a 57 variety parts price list, or, in other words, trying to tack onto the customer's pocketbook all that the traffic will bear. Such conditions have been responsible for bringing down upon the heads of dealers a great deal of condemnation which has incidentally resulted in their losing the repair work which they should have had, and which in turn has gone to the independent service stations and repair shops. Incidentally, however, this is not a condition for which the dealer may be criticised, solely. It is a matter which is entirely in the hands of the manufacturers.

Manufacturers Must Show the Way

Fortunately, many concerns are beginning to see the necessity for giving real service. These manufacturers are tackling the service problem in a broad-minded way. They realize that the servicing of their product requires not only the expenditure of money, but a systematic and helpful propaganda which must emanate from the factory and filter its way down through the company's sales organization to the sub-dealer.

In this connection some of the statements made by Norval A. Hawkins, of the General Motors Corp., are well worth while for many manufacturers to read carefully and put in practice. Mr. Hawkins, who made the opening address of this convention, detailed his conception of what service means, in a manner that left little room for doubt. The manufacturer must either resolve to and actually put his service end of the business on a proper plane, or he will be forced by competition to be eliminated from the field. A review of this address is given elsewhere in this issue, in extracted form. This address contains so many valuable suggestions of interest to the service department that no service man should fail to read it. We would also suggest that the sales manager read it thoroughly, as it will give him a better conception as to why the Sales Department should function harmoniously with the Service Department.

The Flat Rate Plan

Another outstanding feature of the convention was the discussion of the flat rate plan. Percy E. Chamberlain, who is a well-known exponent of the flat rate system, opened the second day's session with an address on this subject. Mr. Chamberlain gave concrete examples as to where the adoption of a flat rate plan had changed loss to profit, and how the flat rate system overcame sales resistance. He stated that 97 per cent of the kicks over bills for repair work was due to the labor charge. This subject naturally created a great deal of discussion, the consensus of opinion being that the flat rate plan would eventually become the regular thing at most service stations. Mr. Hawkins even predicted "that within three years every reputable repair shop in America will be operating on some form of the flat rate system."

One prominent truck maker's representative stated that 80 per cent of the repair bills were due to lack of lubrication, loose nuts and bolts. He advanced the thought that if some service plan could be devised which would take care of these two items alone, that maintenance costs would be but 20 per cent of what they are today.

In connection with the flat rate system it may be mentioned that many service managers labor under the impression that the flat rate system entails a great deal of clerical work and would, perhaps, require a staff of experts to keep it up-to-date. Such, however, is not the case, provided the service department is not required to service an unusually large number of models. It stands to reason of course that the manufacturer who is concentrating on a few models can institute a flat rate plan to greater advantage than the manufacturer who is burdened with a great variety of chassis. The big thought underlying the flat rate plan is that it gives the customer an idea as to what the job will cost before the repair is started.

Service Manager Should be Consulted

The point was also brought out prominently that the service manager should be consulted in the design of a new product, and not ignored as is usually the case. Ordinarily the service manager is called upon to take care of mistakes which could have been rectified in the first place, had the Service Department been given an opportunity to work in closer harmony with the designing department. Too much avoidable service work is done at great expense by the Service Department which could have been entirely eliminated had the service manager been in closer contact with the designing and production departments.

As anticipated, no solution was found for the pirate parts problem, which was discussed frequently throughout the session. It seemed to crop up repeatedly. The only solution seems to be a revision of parts prices by the factories and parts manufacturers. It was also suggested

that parts and components be trade-marked whenever possible, but as one speaker pointed out, the owner does not buy the substitute parts, nor does he see them in the majority of cases, therefore the dealer must be educated and sold on the idea of using genuine parts.

The meeting unanimously condemned the practice of some dealers of adding from 10 to 40 per cent to the price of parts for handling charges. This subject created considerable discussion, but again the only solution is for the factory to put a stop to this practice.

This year's meeting produced more animated discussions and frank expressions of opinions than any so far held by service managers. We are sure that every service manager who attended had a message to take back home with him or has formulated in his mind plans which will be of inestimable value to the factory. The factory officials in so many cases are fully aware of the changing conditions affecting the automotive industry. Many have not as yet, however, appreciated the need for giving this service problem a greater degree of attention. We suggest that the service manager be given every opportunity by the factory to lay his cards upon the table. It will be of benefit to the factory as well as to the industry as a whole.

Are You Looking for Information in the Exporting Business?

How the Newly Created Automotive Division of the Bureau of Foreign and Domestic Commerce Will Assist American Manufacturers in Exporting Motor Truck and Passenger Cars

By GORDON LEE, Chief of the Automotive Division

THE Automotive Division of the Bureau of Foreign and Domestic Commerce takes a position analogous to that of an export sales manager who has as his problem the disposal of a certain percentage of all the products of the various automotive producing groups of this country in all countries outside of the United States. For his facilities he has an overseas force of over 600 men to cover 110 different countries and what he has to sell is the range and variety of automotive products manufactured in this country.

During the peak load of production in 1920, approximately 7½ per cent of the output of the passenger car and motor truck manufacturers of this country was exported. With a slowing-up of sales in domestic markets, natural interest was created in the possibilities overseas of an outlet for the normal productive capacity for the factories of this country.

A survey by the Automotive Division of the Bureau of Foreign and Domestic Commerce has pointed the way to a goal of exporting 15 per cent of the total productive capacity to act as a takeup of the decreased consumption in domestic sales. Coupled with a survey of the requirements of the industry of this country and what the Government can do through its Commodity Divisions, recently established for the specific purpose of furthering our foreign trade interests, the following represents the conception of our problems and the steps to be taken to maintain American automotive supremacy in the markets of the world.

Serving the Industry

The automobile industry paid in 1920, in federal taxes alone, the sum of $148,720,800, or enough to cover the Federal, Judicial, Congressional and Executive expenses, as well as the Department of Interior, Commerce, Treasury, Justice, Labor and Agriculture, plus the expenses of the entire Diplomatic and Consular Service.

In return, the American manufacturer of motor vehicles can reasonably expect to have the Government stand behind him when he goes out to hold his own in foreign markets where he hardly could survive the competition of a well organized and government supported foreign industry.

Most manufacturers have not the means of maintaining an organization securing for them all the information they need to compete abroad, or the past experience to guide them. Thus the Government is given an opportunity to be of actual help to the industry. In the endeavor to be of assistance, it has created the Automotive Division, at the head of which are men whose sole aim is "serving the industry."

The Automotive Division, while acting as a clearing house for information, also represents the industry whenever it is threatened by adverse foreign interests.

Safeguarding the Industry's Interests

It has happened in the past and will happen more frequently in the future with the increasing competition, that foreign automotive interests will try to protect themselves by influencing their Government to erect highly protective tariff walls, or issue vehicle regulations to exclude American products from the markets, or take such other steps as to give them an advantage over our own manufacturers and exporters. The Automotive Division immediately takes steps to overcome such discriminatory legislation through diplomatic channels and trade relations and further by lining up the interested trade associations and individual manufacturers to combined action.

Getting the Manufacturer's Viewpoint

Although the Division is headed by experts in the automotive line, the first move of the Division was "getting the **manufacturer's** viewpoint;" conferences with trade associations and with individual manufacturers were initiated by means of which the Division could ascertain what services the industry most urgently calls for; some trade associations have furthermore been induced to appoint committees for the purpose of establishing a closer contact between the bodies they represent and this Division.

Trade Associations with which the Division has been in touch and which have established such committees are:

The National Automobile Chamber of Commerce;

The Motor and Accessory Manufacturers' Association;

The Manufacturers' Aircraft Association.

Similar arrangements are contemplated with the following:

Society of Automotive Engineers;

Trailer Manufacturers' Association;

Automotive Equipment Association;

Motorcycle and Allied Trades Association.

An illustration of the business man's influence in the newly organized Automotive Division is the classification of our automotive exports from the United States by number, value and countries, **into three price groups for motor cars and three tonnage groups for motor trucks.** This arrangement will enable the Automo-

tive Division to analyze the export figures and point out to the manufacturer **the number and value of vehicles exported which are of the same classification as the ones he is producing** and when compared with the exports of competing Automotive nations will form the basis for a deductive analysis **to determine foreign competition and the trend of overseas markets.**

Securing Information

A special automotive Trade Commissioner is now enroute to the Far East, Straits Settlements and India, solely in the interest of the automotive industry, who will not only make a thorough investigation of the country but also make provisions for a steady flow of information through resident correspondents. Ultimately the principal countries of the world will be covered in similar fashion.

All foreign agents of the Department of Commerce, the Trade Commissioners and Commercial Attaches, co-operate with the Automotive Division.

Including the agents of the State Department, the Consuls abroad, six hundred men are thus available for securing the information and to carry on the investigations the Division asks for.

Questionnaires are being prepared in the Division covering,—

(a) The data which these United States agents abroad will report every month, so that the Division may be regularly and automatically informed of all the changes taking place in foreign markets.

(b) Items in which the Division is to be informed in order to complete its reference files: this information will be condensed in manual form.

(c) Trade lists, giving the names of dealers in automotive products and banks handling automotive paper.

Any happenings abroad requiring quick action will be immediately communicated to the Division by cable.

The Division is subscribing to automotive publications of foreign countries, which supply additional information, together with what is being clipped from trade papers in the Research Division of the Bureau, covering the principal publications of the world.

Digesting Information

All incoming information is carefully scrutinized as to its accuracy and usefulness, analyzed, put into shape for publication and communication, and filed for ready reference.

Reports from abroad are analyzed, tabulated if necessary, and presented to the trade in the most intelligible form.

The research files are arranged by subjects on a geographical basis including 110 countries, starting with Abyssinia and including Venezuela.

The Division is endeavoring to act as a clearing house for all incoming and outgoing automotive information: all automotive inquiries will be transmitted to the Division and answers to questions pertaining to automotive products and addressed directly to the Commerce or State Departments' agents abroad, shall in the future pass through the Automotive Division.

Disseminating Information

The channels through which information is being distributed are:

(a) Correspondence (answers to specific inquiries.)

(b) Automotive "Trade Lists," which are forwarded upon request but not to be published. Up to now, these lists have the name, address, relative size and commercial classification (importer, exporter, wholesaler, retailer, etc.) of the dealer. As the lists were not all up to date, most manufacturers considered them useless. The Automotive Division has suggested and outlined new lists to be filled out and kept up to date by monthly supplements. These new lists contain the following headings: country: city: dealers in automotive products: name, address, relative size, commercial classification, nationality, makes of cars handled, selling organization (nature of organization and subdealers), storage facilities (nature of facilities and how many cars can be stored), service facilities (the nature of facilities and number of employes), side lines (other products handled and commercial enterprises which the dealer is engaged in); banks handling automotive paper (those equipped and willing to satisfactorily finance automotive shipments from the United States): name of bank, relative size, address, capitalization, branches. These lists, although they most likely shall not give as many names as the old ones, will prove of greater value, as they include what a manufacturer wants to know for the selection of prospective dealers and give an actual picture of the situation.

(c) "Confidential Circulars," informing manufacturers whose names are on the "Exporters' Index" of confidential news items and trade opportunities.

(d) "Press Releases" sent to Trade Associations and to the Press and containing news of immediate interest to the public.

(e) "Commerce Reports." The Division will endeavor to have embodied in this publication every week articles and news items referring to automotive export conditions and giving a deductive analysis of competitive sales factors and obstacles.

(f) Interviews with press representatives and data furnished to them upon request.

(g) Foreign Trade Manual—The National Automobile Chamber of Commerce has gotten up an outline of such a manual, which, however, could not be developed as it was planned, and has been turned over to this Division for keeping it current: Information which will be embodied in it shall be accessible in the files of the Division to the entire industry listed on the "Exporters' Index."

Information Sought

The Division is endeavoring to build up a "Research File" arranged by countries and covering the points indicated in the following outline of "Filing System of the Automotive Division," showing subjects attempted to be covered in 110 countries beginning with Abyssinia and ending with Venezuela.

The Automotive Division, according to its functions, consists of three branches:

(1) Administration: organization (work reports); contact (receiving visitors); correspondence (including correspondence files).

(2) Publicity: Confidential communications to manufacturers on "Exporters' Index;" release of new sheets to trade associations and press; articles for Commerce Reports.

(3) Research: analysis and abstraction of incoming reports; preparation of sheets for the Foreign Trade Manual; building up of research files; preparation of material requested in co-operation with the Research Division of the Bureau of Foreign and Domestic Commerce and other branches of the Government, such as State Department, Federal Trade Commission and War Department.

Industry's Point of Contact

We want the entire automotive industry to feel that the Automotive Division is their point of contact with all of the departmental activities of the Bureau of Foreign and Domestic Commerce. The Automotive Division will, through co-operative arrangements with the Tariff Division, supply foreign tariffs information as to rates of duty in force in all foreign countries, customs regulations, requirements as to shipping documents, marking, etc., and similarly deal with the various phases of transportation problems by means of the technical Division of Transportation, the facilities of which are at our disposal.

We can further offer the co-operative facilities of commercial laws, giving rules governing commercial transactions in foreign countries, incorporation and taxation of foreign companies, court procedure, collection of accounts as well as practices and regulations governing the general conduct of all commercial transactions between automotive producer in this country and the dealers and importers in foreign countries from a legal standpoint. A simple example of a case falling in the scope of the information is as follows:

Art. 26 of the French Code-duRoute regulating the marketing of foreign type automobiles requires the accrediting of the manufacturers' representative to the French Minister of Public Works. What is the law's requirement as to nationality of the representative?

Following a long established governmental policy of making no discrimination in giving information to American firms, it is urgently recommended that every manufacturer become listed on the "Exporters' Index," because until a firm has satisfied the requirements of Form 57 of this Bureau and established the fact that they are an American firm founded upon American ideals, and manufacturing American products, we are not in a position to supply confidential information but can only give such general information as is embodied in Commerce Reports and special bulletins of a general nature.

Don't forget the 1922 Motor Truck Show!

EDITORIALS

Lubrication an Important Factor

MORE and more the automotive industry must realize that the lack of proper lubrication is responsible for the great amount of unnecessary service work that must be performed yearly on the 10,000,000 motor vehicles in this country. Eighty per cent of the repair work done by the prominent truck company is caused, according to the factory service manager, by rank carelessness in failing to keep the vital parts of the truck lubricated, and because nuts and bolts are not kept tight.

Unquestionably the fault lies entirely with the owner or those in charge of the vehicle. On the contrary, however, is this not a problem which directly affects the dealer? And, furthermore, would it not pay the dealer handsomely if he were to institute an oiling service in connection with his service station? We certainly think it would.

Just what happened in the case of a large wholesale house that used a number of trucks is told elsewhere in this issue. It tells how the dealer started an oiling service and—it's a paying proposition.

The job of systematically lubricating the truck deserves the attention of someone who is responsible. It is not a job that can safely be entrusted to the average truck operator. Although looked upon as unimportant or menial work, upon the careful execution of it largely depends the life of the vehicle.

The 1922 Motor Truck Show

IN view of the fact that there will be no National Motor Truck Show either in New York or Chicago, it has been decided to hold the 1922 Motor Truck Show within the covers of the January issue of COMMERCIAL CAR JOURNAL.

Suppose the national shows were held this year, we doubt if many dealers would be able to attend. The fact of the matter is that the dealer is too busy this year to be able to afford a trip to the show. He would greatly prefer to have the show brought to him, and that is just what the January issue of the COMMERCIAL CAR JOURNAL will do. In the January issue the dealer will find the displays of the most representative firms in the industry—real show displays. From this issue the dealer will be able to learn who's who and what's what.

In the January issue we will have show space sections in which the manufacturers will exhibit trucks, units, equipment, bodies and such accessories especially designed for trucks. A number of special merchandising articles are being prepared for this issue, which will be of special value to the dealer at this time. The dealer will find a lot of good information in the January number that will help him do a bigger business next year. The trend of design will be thoroughly analyzed and discussed, showing the dealer what has taken place and what will take place in the next twelve months.

Service and Pirate Parts

IN our last issue we commented on the pirate parts situation, particularly in view of the fact that this subject came up for discussion at the Service Managers' Convention. According to expectations, this body did not find a solution to the problem. Many helpful suggestions were made—such as stamping the individual parts wherever possible; educational propaganda directed at the repairman and the owner, etc. But as pointed out by some, the cost of doing these things in most instances would be prohibitive.

The condition which service men deplore the most, however, is the dumping of rejected production parts into the service department to be used ultimately in repairing the very vehicles for which they were rejected. Furthermore, some parts which were rejected by the truck manufacturer would be resold by the parts manufacturer to outside concerns who in turn sell them to service stations and repair shops.

Such a condition cannot be tolerated and little wonder that the service managers saw fit to give vent to their feelings. The service manager cannot be held responsible for such practices. He is usually the individual who is criticised, however, for the poor service resulting from innumerable causes beyond his control, and in too many instances is obliged to execute the orders of the man higher up. It is regrettable that such conditions exist. However, in time, such practices will be discontinued as the industry is fast learning that service is one of the most important elements which the industry has to consider seriously. Most every truck manufacturer realizes that service is one of his greatest problems, and the policies referred to, if continued, will certainly not help to solve the service problem.

News of the Trade in Brief

Personal, Factory and Dealer Notes on Page 72

Pneumatics Undergo More Reductions

Another reduction in tires and tubes which apparently swept the greater part of the rubber industry took place during the first three weeks of November. The reductions were remarkable in the face of the fact that crude rubber has not dropped in price to any appreciable extent, and fabric is still steady. The opinion has been expressed in the trade that the winter and spring may even see an increase in the price of rubber and fabric.

The reductions range from 10 to 20 per cent, the cord tires making the greatest drop. A 30 per cent reduction on 3½ and 4 in. straight side cords is announced by Goodyear.

Electric Vehicle Men to Hold Monthly Meetings

Transportation engineers and dealers of electric vehicles gathered December 2 at a conference held under the auspices of the Automobile Bureau of the New York Edison Co., 44 W. 27th St. Speeches of an instructive character were given by several well-known figures in the electric vehicle industry. This was the first of a series of meetings to be held monthly.

Cincinnati Stages Successful Show

Exhibits representing an outlay of a million and a quarter dollars constituted the first annual commercial car and accessories show of the Cincinnati Automotive Trades Association held at the Music Hall November 26 to December 3. The truck exhibit was particularly good, and may be the means of stimulating much truck business in Cincinnati.

Credit for the success and completeness of the exhibit is due to the untiring effort of Roy A. Faulkner, president of the C. A. T. A.

Coming Events

SHOWS

January 7 to 14, 1922—New York, N. Y. Annual Automobile Show of the National Automobile Chamber of Commerce, at Grand Central Palace. Passenger Cars and Accessories.

January 9 to 14, 1922—New York, N. Y. First annual show of the Automobile Body Builders' Association, 12th Regt. Armory. Exhibit of Commercial and Passenger Car Bodies. R. D. Mitchell, Sec., 4106 Woolworth Bldg.

January 9 to 20, 1922—New York, N. Y. First Annual Retail Dealers' Auto Equipment Show, at Hotel Imperial, auspices of National Retail Merchants' and Buyers' Assn. Accessories and Automobile Clothing. George T. Keen, Sec., Hotel Imperial.

January 14 to 21, 1922—Buffalo, N. Y. 19th annual show at 74th Regt. Armory, auspices of Buffalo Automobile Dealers' Assn.

January 19 to 25, 1922—Milwaukee, Wis. Annual Automobile Show of the Milwaukee Automotive Dealers' Assn., Auditorium (100,000 sq. ft.). Passenger Cars, Trucks and Accessories. Bart J. Ruddle, 316 Brumler Bldg.

January 23 to 30, 1922—Portland, Ore. 13th Annual Show of Automobile Dealers' Assn., of Portland, Auditorium (60,000 sq. ft.). Passenger Cars, Trucks and Accessories. Ralph J. Staehl, Mgr., 525 Henry Bldg.

January 28 to February 4, 1922—Chicago, Ill. Annual Automobile Show of the National Automobile Chamber of Commerce, at the Coliseum.

January 30 to February 4, 1922—Minneapolis, Minn. National Tractor Show, held annually.

January 30 to February 4, 1922—London, Ont., Canada. Second Annual National Motor Show of Western Ontario, Armory and temporary buildings, auspices of Automotive Retailers' Assn., London, Ont. Passenger Cars, Trucks, Tractors, Accessories, Motorcycles and Bicycles. T. C. Kirby, Tecumseh Hotel.

February, 1922 (tentative date)—Madison, Wis. Ninth Annual Show of the Automotive Dealer Division, Assn. of Commerce. Passenger Cars, Trucks and Accessories. Don W. Mowry, Cartwell Bldg.

February 3 to 10, 1922—Minneapolis, Minn. Fifteenth Annual Automobile Show, auspices of Minneapolis Auto Trade Assn. Passenger Cars, Trucks and Accessories. W. R. Wilmot, 709 Andrus Bldg., Minneapolis.

February 6 to 9, 1922—Scranton, Pa. Annual Truck Show, under the auspices of the Scranton Motor Trades Assn., Armory (50,000 sq. ft.). Hugh B. Andrews, Mgr., 411 Board of Trade Bldg.

February 6 to 11, 1922—Winnipeg, Canada. Second Annual Automotive Equipment Show, auspices of Western Canada Automotive Equipment Assn., Board of Trade Bldg., Auditorium. W. L. Williams, New Stovel Bldg., Winnipeg.

February 11 to 18, 1922—Allentown, Pa. Annual Truck Show of Lehigh Valley Auto Trade Assn. P. W. Brooks, Secy., 1014 Hamilton St.

February 11 to 18, 1922—San Francisco, Cal. Sixth Pacific Automobile Show, auspices of Motor Car Dealers' Assn. of San Francisco, at Exposition Auditorium (70,000 sq. ft.). Passenger Cars, Trucks, Tractors and Accessories. G. A. Wahlgreen, 215 Humbolt Bank Bldg., Mgr.

February 11 to 18, 1922—Atlanta, Ga. Second Annual Great Southern Automobile Show, auspices of Atlanta Automobile Assn., Auditorium Armory. Passenger Cars, Trucks and Accessories. Virgil W. Shepard, 305 Connolly Bldg., Show Mgr.

February 11 to 18, 1922—Kansas City, Mo. Annual Automobile Show of the Kansas City Motor Car Dealers' Association, at the Overland Bldg. E. E. Peake, Sec., 1019 Gloyd Bldg.

February 14 to 17, 1922—Philadelphia, Pa. 21st Annual Exhibit and Convention of the Pennsylvania and Atlantic Seaboard Hardware Assn., Inc., at the Commercial Museum. Automobile Accessories, etc. Sharon E. Jones, Sec., 1314 Fulton Bldg., Pittsburgh, Pa.

February 18 to 25, 1922—Albany, N. Y. 13th Annual Show, auspices Albany Automobile Dealers' Assn., at State Armory. Passenger Cars, Trucks and Accessories. J. B. Wood, Secy., 28 Howard St.

February 18 to 28, 1922, San Bernardino, Calif. Automobile exhibit at the 12th Annual Orange Show, in tents (32,000 sq. ft.). Passenger Cars, Trucks, Tractors and Accessories. Royal H. Mack, Mgr., Chamber of Commerce.

February 20 to 25, 1922—Duluth, Minn. Seventh Annual Show of Duluth Auto Trade Assn., Duluth Armory Bldg. (70,000 sq. ft.) Passenger Cars, Trucks, Tractors and Accessories.

February 20 to 25, 1922—Deadwood, S. Dak. Tenth Annual Black Hills Auto Show of the Deadwood Business Club, Auditorium. Passenger Cars, Trucks, Tractors and Accessories.

February 27 to March 2, 1922—Bethlehem, Pa. Seventh Annual Truck Show of Bethlehem Auto Trade Assn., Coliseum. Trucks, Tractors and Accessories. J. L. Elliott, Mgr., 1308 Norway Pl.

February 27 to March 4, 1922—Portland, Me. Automobile Show, auspices of Portland Automobile Dealers' Assn., Portland Exposition Bldg. Passenger Cars, Trucks, Tractors and Accessories. Howard B. Chandler, Mgr., 3 Park Ave.

February 28 to March 4, 1922—Wichita, Kan. Third Annual Show of the Wichita Motor Trade Assn., at Wichita Exposition Bldg. (100,000 sq. ft.). Passenger Cars, Trucks and Accessories. Guy H. Johnson, Secy., P. O. Box 372.

March 6 to 11, 1922—Indianapolis, Ind. 24th Semi-annual Show of the Indianapolis Auto Trade Assn., Auto Show Building (85,000 sq. ft.). Passenger Cars, Trucks and Accessories. John B. Orman, Mgr., 338 N. Delaware St.

March 6 to 11, 1922—Nashville, Tenn. Automobile Show of the Nashville Automobile Trade Assn., Hippodrome or Page Garage. Passenger Cars, Trucks and Accessories. Allen F. Parkes, chairman, Packard Nashville Motor Co.

March 6 to 11, 1922—St. Joseph, Mo. 8th, Annual Show of St. Joseph Automobile Show Assn., Auditorium (90,000 sq. ft.). Passenger Cars, Trucks, Tractors and Accessories. R. S. Trachsel, Secy., 305 S. 8th St.

March 11 to 18, 1922—Newark, N. J. 14th Annual Show at the First Regt. Armory (60,000 sq. ft.). Passenger Cars, Trucks, Tractors and Accessories. Clyde E. Holgate, Mgr., 343 High St.

March 11 to 18, 1922—Boston, Mass. Twentieth Annual Automobile Show of the Boston Automobile Dealers' Assn., Inc., & Boston Commercial Motor Vehicle Assn., Inc., Mechanics Bldg. (125,000 sq. ft.). Passenger cars, Trucks, Tractors and Accessories. Chester I. Campbell, Mgr., 5 Park Sq.

March 11 to 18, 1922—Bronx, N. Y. Bronx County Automobile Show, at 105th Field Artillery Armory, 166th St. and Franklin Ave. Passenger Cars, Trucks and Accessories. H. G. Stiles, Mgr., 2483 Tiebout Ave., Bronx.

March 13 to 18, 1922—Omaha, Neb. 17th Annual Show of Omaha Auto Trade Assn., Omaha Auditorium. Passenger Cars, Trucks and Accessories. A. B. Waugh, 2051 Farnam St., Show Mgr.

March 22 to 26, 1922—Ann Arbor, Mich. 3d Annual Show of Washtenaw County Auto Dealers' Assn., Coliseum (20,000 sq. ft.). Passenger Cars, Trucks and Accessories. R. H. Alber, Mgr., care of Ann Arbor Garage.

March 27 to April 1, 1922—Oklahoma City, Okla. 6th Annual Show of the Oklahoma City Motor Car Dealers' Assn., at New Coliseum. Passenger Cars, Trucks and Accessories. Edgar T. Bell, Secy., 403 Oklahoman Bldg.

CONVENTIONS

Chicago, Ill., January 17 to 20, 1922—Annual Convention and Exhibit of the American Road Builders' Assn., at the Coliseum. Address Sec., 11 Waverly Pl., New York City.

Chicago, Ill., January 30 to 31, 1922—Fifth Annual Convention of the National Automobile Dealers' Assn., La Salle Hotel.

Chicago, Ill., January 31 to February 4, 1922—Annual Convention of the Automotive Electric Service Assn., at the Hotel La-Salle.

New York, N. Y., January, 1922—Final Meeting of the Automotive Wood Wheel Manufacturers' Assn.

New York, N. Y., January 9, 1922—Old Timers' Club Dinner, "S. S. Flotilla." Address Gregory Flynn, Chairman, 25 West 43d St., New York City.

New York, N. Y., January 10 to 13, 1922—Annual Meeting of the Society of Automotive Engineers, Engineering Society Bldg.

Trenton, N. J., May, 1922—Annual Convention of the New Jersey Automotive Trade Assn. H. S. Moore, Sec.-Treas., Trenton.

New Prices and New Models Are Still Being Announced

SEVERAL announcements of new models accompany the reductions in prices made public in the last few weeks. Reductions are being made in anticipation of spring business and seems to average the same throughout the industry with a few exceptions.

The 1922 shows will give dealers and manufacturers an opportunity to feature recent reductions in truck prices. There is a general opinion in the trade that automobile shows are going to be of great value in moving the sale of commercial vehicles.

Reductions by Diamond T

Six models of the Diamond T Motor Car Co., of Chicago, has been reduced. The reductions average about 6.6 per cent on the smaller models and 5 per cent on the larger ones. New prices can be found in the Specification Tables.

Gramm-Bernstein Announces New Schedule

The Gramm-Bernstein Motor Truck Co., of Lima, O., has announced reductions on seven Pioneer truck models. The company also made a reduction on all its models in September, 1921. See Specification Tables for new prices.

All Luedinghaus Trucks Reduced

All truck models of the Luedinghaus Espenschied Wagon Co., St. Louis, Mo., have dropped in price, according to an announcement from the factory. Substancial reductions have been made on the Model C, 1 ton; Model W, 1½ ton; Model K, 2 ton and Model K-LS, 2 ton.

Signal Introduces New Models

Coincident with the announcement of a reduction on all its truck models, the Signal Motor Truck Co., of Detroit, Mich., announces two new models in the medium weight class. The new products consist of a 2½ ton, Model JL, selling for $3015, and a 3½ ton, Model ML, price $3975.50. Prices on other models can be found in the Specification Tables.

Reductions by Standard

The Standard Motor Truck Co., of Detroit, Mich., has reduced prices on its entire line. The 1½-ton Model is down $200, while the 5-ton truck at $4400 is $850 under the old price. Other models are reduced proportionately.

A $500 Reduction by Witt Will

A 6.5 per cent reduction is announced by the Witt Will Co., Inc., of Washington, D. C., on its 2-ton truck Model P. The new price is $2750.

Young Also Reduces Prices

All three models of the Young Motor Truck Co., of Euclid, O., have undergone a decrease in price. The models are known as the 1 ton, the 2 ton and the 3½ ton. New prices are recorded in the Specification Tables.

New Prices January First for Yellow Cab

The Yellow Cab Manufacturing Co., Chicago, has announced a change in the price of its taxicabs, effective January 1, 1922. The net reduction is from $2600 to $2200 for large fleet orders. Prices on extra equipment have also been reduced, and in a number of cases certain extras have become standard equipment. The reduction is due to increased volume of business and facilities for producing more cabs.

Report on Automotive Industry During October

Sales of parts and equipment by approximately three hundred representative manufacturers selling to the principal car and truck makers fell 5 per cent during October. At the same time the total amount of notes outstanding dropped a little less than 6 per cent.

These are the two main features of the official monthly survey made public by the Motor and Accessory Manufacturers' Association.

Credit managers and financial executives who contributed the figures and reports from which this monthy chart of conditions is plotted, commented on the fact that in view of the normal seasonal conditions during October the figures are not at all surprising. The concensus of opinion seems to be that the improvement will be steady, fundamental and hence somewhat gradual.

The figures for the last nine months are:

Comparative Figures for 1921

Month	Per Cent Change*	Per Cent Change†	Per Cent Change‡
February.	66.15 Inc.	17.07 Dec.	39.08 Inc.
March ...	93.30 Inc.	16.57 Dec.	16.38 Dec.
April	32.93 Inc.	4.49 Dec.	5.94 Inc.
May	00.13 Inc.	15.64 Dec.	16.77 Dec.
June	15.19 Dec.	4.79 Inc.	10.37 Dec.
July	1.68 Inc.	10.79 Inc.	7.90 Dec.
August ..	1.31 Inc.	17.06 Dec.	5.30 Dec.
September.	1.09 Dec.	00.22 Inc.	5.24 Inc.
October ..	4.70 Dec.	3.54 Inc.	5.82 Dec.

*Purchases of parts, units, equipment, etc., by automobile passenger car and motor truck makers from 300 parts and accessory manufacturers by months—per cent change.
†Totals of notes outstanding—per cent change.
‡Totals of past due accounts reported—per cent change.

Timely Topics to be Discussed at the 1922 Motor Truck Show

Aside from the regular exhibit, which in itself will be of utmost value to you, important subjects bearing on prospects for 1922, trend of design, analysis of types, etc., will be discussed at this show. Don't fail to attend. Get the January CCJ and you will be at the show. Save time, money and effort with the same result.

Are You Scrapping Obsolete Merchandising Methods?

Members of the National Association of Motor Truck Sales Managers who attended the annual meeting in Detroit, December 2d, heard one of the most constructive programs ever given at the sessions of this organization. Two speakers, C. W. Treadwell, manager of sales instruction of the Burroughs Adding Machine Co., and Gordon Lee, chief of the Automotive Division, Bureau of Foreign and Domestic Commerce, of Washington, D. C., were the speakers at the morning session.

Mr. Treadwell outlined sales methods used by his company which are directly applicable to the merchandising of motor trucks, methods which have gotten concrete, profit making results and which those members who were present will be only too glad to adapt to their several needs. Mr. Treadwell stated that the Burroughs Company has found that many of their old methods are now outworn and not equal to the sales necessities of this high-power day, and they have not hesitated to scrap the old ways and adopt newer and better methods to get results.

He counciled the motor truck manufacturers to seek out the out-of-date methods in their own organizations and not to be afraid to scrap them in favor of newer and more result-getting means.

Mr. Lee's talk was wholly along the line of what the motor truck manufacturers may expect in the future from his department in the way of helping them to build up export business. Details of the Automotive Division of the Bureau of Foreign and Domestic Commerce are given on page 21. Unlike former red tape government bureaus, Mr. Lee's bureau has gone to the very fundamentals on helping the manufacturer and the "samples" he showed the sales managers of how this department had already co-operated with export manufacturers in automotive lines were such that wide vistas of profit in export business were opened to the men who are responsible for selling the output of the truck factories.

Among some of the strong points Mr. Lee brought out were that Australia, New Zealand and South Africa were all in the market for motor truck equipment today, and that they and other foreign countries favor American motor trucks as they have seen how much better the American truck is serviced after it reaches the consumer. He emphasized this point as being a big sales asset. He stated that foreign competition in the export market was not to be feared as the foreign makers can't supply the demand that must be met. Fiat, he stated, will not manufacture any trucks this year.

At the afternoon business session of the association three directors were elected, Messrs. C. J. Helm of Acme Motor Truck Co., and A. C. Burch of Clydesdale Motor Truck Co., succeeding themselves on the directorate, and C. J. Costello of United States Motor Truck Co., being named as a new member of the board.

Officers will be named at a meeting of the board to be held soon.

The association has some very extensive plans for extending sales promotion efforts during the coming year.

Dealers Band Together in Pennsylvania

Pennsylvania now has a state dealers' association. Automobile representatives from all parts of the Keystone State assembled in conference at the State Capitol Building, Harrisburg, November 9 and 10, and organized the Pennsylvania Automotive Dealers' Association, with a charter membership of over 250, over $6000 in the treasury, and a working staff of officials who have been noted for their activity in promoting betterment in the automobile industry.

For an organization conference, the meeting could not be surpassed. Excellent speeches were made by Harry G. Moock, manager of the N. A. D. A.; Wayne Hearne, Alfred Reeves, manager of the N. A. C. C.; Harry Meixell, Jr., also of the National Chamber; Neal Adair, of Motor World, and A. V. Comings, of the CHILTON publications.

George G. McFarland, president of the Harrisburg Motor Car Dealers' Association, was elected president of the state organization, and Mr. McFarland's record of achievement in the past augurs well for the success of the state body under his leadership.

J. B. Arbuckle, of Erie, was named vice president; E. A. Clark, of York, was elected treasurer, and Roy Schreiner, of Lancaster, was named temporary secretary to act until a paid manager-secretary can be secured. These officers, and the following constitute board of directors:

Messrs. Albert E. Maltby, Philadelphia; E. T. Satchell, Allentown; T. F. Dunn, Pittsburgh; J. M. Kullbach, Reading; George S. Bray, Wilkes-Barre; J. G. Adams, Uniontown; O. R. Conrad, Scranton; J. E. Love, Butler; E. C. Davis, Sharon; H. H. Harkins, Lebanon, and W. U. Mussina, Williamsport.

The executive committee of the association will consist of Messrs. McFarland, Arbuckle, Maltby, Clark and Conrad.

Harry Schroeder, of Lancaster, was appointed financial secretary.

Dealers of Indiana in Annual Conference

Many excellent discussions on vital automotive problems marked the first annual meeting of the Indiana Automotive Trade Association held at Indianapolis, Ind., November 16. Dealers brought to the convention a sane outlook for the future of the business, attesting to the indispensability of hard work to put the industry back on its feet.

The general election of officers resulted as follows: N. H. Cartinhour, president; J. Cooper Props, Muncie, first vice president; M. D. Laughlin, Gary, second vice president; J. F. Frohbieter, Evansville, treasurer, and Lynn Shaw, Indianapolis, secretary-manager. Directors are: M. T. Johnson, Vincennes; J. T. J. Graves, Salem; A. T. Griffith, Columbus; W. E. Robinson, Terre Haute; Fred Bethard, Richmond; Walter Duckwell, Noblesville; R. W. Wallace, Lafayette; F. W. Kelsey, Huntington; W. S. Becker, Ft. Wayne, and William Nichols, South Bend.

Automotive Industry Well Represented in Good Roads Show

All of the initial 40,000 square feet of space for the forthcoming Thirteenth National Good Roads Show to be held at the Coliseum, Chicago, Ill., January 16 to 20 next, under the auspices of the American Road Builders' Association, having been reserved by 86 exhibitors at the first drawing in October, the officials in charge have arranged for about 20,000 square feet of additional space to care for a waiting list of about 50 firms not yet accommodated. Arrangements have been made by E. L. Powers, secretary, for about 12,000 square feet of space in the balcony of the Coliseum and 8000 to 10,000 more square feet in two buildings adjoining the Coliseum Annex on the south.

Diagrams showing the new space were sent to prospective exhibitors during the past few days. There were 144 exhibitors at the show last year, and the indications are that the number this year will approach nearer the 200 mark. The show last year also broke all records for attendance. It is expected that the attendance this year will be even greater.

Among the firms who reserved space at the October drawing were the following concerns connected with the motor vehicle industry: Atterbury Motor Car Co., Buffalo, N. Y.; Autocar Co., Ardmore, Pa.; Baldwin Chain & Mfg. Co., Worcester, Mass.; Chain Belt Co., Milwaukee, Wis.; Clark Tructractor Co., Buchanan, Mich.; Electrical & Specialty Supply Co., Chicago, Ill.; Four Wheel Drive Auto Co., Clintonville, Wis.; Heil Co., Milwaukee, Wis.; Holt Mfg. Co., Peoria, Ill.; International Motor Co., New York, N. Y.; Jennings Automatic Dump Body, Inc., Roanoke, Va.; J. T. Tractor Co., Cleveland, O.; Kissel Motor Car Co., Hartford, Wis.; Lakewood Engineering Co., Cleveland, O.; Lee Trailer & Body Co., Chicago, Ill.; Monarch Tractors, Inc. (New York office), Parker Motor Truck Co., Milwaukee, Wis.; Reo Motor Car Co., Lansing, Mich.; Republic Truck Sales Corp., Alma, Mich.; Schacht Motor Truck Co., Cincinnati, O.; Titan Truck Co., Milwaukee, Wis.; Waukesha Motor Co., Waukesha, Wis.; White Co., Cleveland, O.; Wisconsin Motor Mfg. Co., Milwaukee, Wis.; Wood Hydraulic Hoist & Body Co., Detroit, Mich.

Alemite Will Open a Canadian Factory

The Alemite Products Company, Ltd., will shortly begin the manufacture of Alemite products for the Canadian trade. The company is a subsidiary of the Bassick Manufacturing Co., which pioneered the Alemite system of lubrication. Decision to establish a Canadian subsidiary was forced by the strong demand in the Dominion for Alemite and other Bassick products. W. E. Rowsome is general manager of the Bellevillé plant. He states that production will be under way in December.

Michigan to Conduct Automobile Show Circuit

Automobile exhibits in the State of Michigan are to operate on a circuit basis for 1922 under the supervision of the Michigan Automotive Trade Association. Already twelve Michigan cities have agreed upon show dates and have formulated plans for the general conduct of the exhibit.

Although the circuit was organized by the M. A. T. A., the state organization will not take over the individual management, as every city is to have its own directing head. However, H. H. Shuart, who has so successfully conducted the Detroit dealers' shows will have general supervision.

Great economy is to be effected by the circuit idea as the purchasing of supplies can be conducted on a large basis. A standard plan of decorating will be adopted. It is also planned to get special exhibits from the manufacturers and large distributors, such as stripped and cutaway chassis engine parts, etc. Another plan is to obtain vaudeville acts to cover the circuit.

All of the show equipment and exhibits will be transported by truck. This will be made possible during the winter months by the new plan inaugurated by State Highway Commissioner Frank F. Rogers to remove the snow with great rapidity.

Although detailed plans are not forthcoming, a number of the cities are planning to include motor trucks in the exhibits.

The cities and dates of the circuit are as follows: Pontiac, February 1 to 4; Flint, February 8 to 11; Kalamazoo, February 14 to 18; Grand Rapids, February 20 to 25; Muskegon, February 27 to March 4; Bay City, February 28 to March 4; Saginaw, March 6 to 10; Port Huron, March 15 to 18; Ypsilanti, March 21 to 22; Ann Arbor, March 24 to 25; Benton Harbor, March 28 to 31; Battle Creek, April 2 to 8.

Northern Pacific Adopts Gasoline Bus for Branch Lines

A new type of passenger carrier, which is a specially designed Mack gasoline rail bus mounted on steel flange wheels so that it can be operated on standard railroad tracks, recently made several trial trips on the Northern Pacific Railroad lines with great success. The project is fostered by executives of the Northern Pacific in co-operation with W. F. Sailor, of the International Motor Co.

The experimental trips were made over the lines from St. Paul to White Bear, a distance of 12 miles. Twenty-three passengers made the trip in most satisfactory time, the trial being witnessed by a large assembly of prominent railroad men.

Convinced of the advantages of gasoline motor vehicles, the Northern Pacific now operates a rail bus in regular service on a branch line, and expects shortly to install more of these buses in like and larger capacities.

To Eliminate Mileage Adjustment Abuses

A movement is well on the way to adoption throughout the tire industry to eliminate the chief evils which have for years caused loss to consumers, dealers and manufacturers through improper claims for adjustment, and manufacturers and dealers are working in harmony to produce the desired result.

Owners who take good care of their tires are the strongest contributing factor to future economy in tire costs. Adjustments based on claims other than because of manufacturing defects strike at the efforts of the industry to secure tire economy. Dealers have been placed in the embarrassing position of losing the good will of tire users and manufacturers and have borne the brunt of the loss due to claims which have arisen out of public misconception of the responsibility of tire manufacturers.

All of the abuses have tended to increase costs and the whole purpose of the present movement is to eliminate the waste due to these causes.

Under the plan there is a revision of the old guaranty in the form of a new manufacturer's standard warranty, aimed to clear up misunderstandings the public may have had regarding the manufacturer's responsibility. A standard claim form is also being placed in the hands of dealers. The manufacturers are taking steps to put the plan into effect immediately. The new manufacturer's standard warranty and the standard claim form have already been welcomed by the National Tire Dealers' Association as a constructive measure. Through the plan all claims covering alleged defects will be presented in a uniform manner for consideration by the tire manufacturer.

The form should result in the elimination of "policy" adjustments, which have been the bugbear of the tire industry since its inception, and have caused losses running into large sums annually. Hereafter manufacturers will consider alleged defective tires only on the basis of general appearance and the condition in which they are returned by the customer. No claims will be considered unless the standard claim form is executed by the tire owner. The claim form does not enter into the transaction between the dealer and the consumer at the time of sale, and is only to be used when the tire owner may have occasion to present a claim based on defective workmanship or material.

The warranty is to be printed on price lists, tags and stickers accompanying tires, etc., much in the same manner as the former so-called guaranty was used. That portion of the warranty that covers the change in policy toward adjustments reads as follows:

"We do not guarantee automobile tires for any specific mileage, but every pneumatic automobile tire bearing our name and serial number is warranted by us to be free from defects in workmanship or material.

"Tires claimed to be defective will be received only when all transportation charges are prepaid, and when accompanied by this company's claim form duly filled out and signed by owners.

"If, upon examination, it is our judgment that the direct cause of the failure of the tire to render satisfactory service is attributable to faulty material or workmanship, we will, at our option, either repair the tire or replace it for a charge which will compensate for the service rendered by the returned tire, based upon its general appearance and condition."

October Shows Big Increase in Truck Exports

The exportation of finished trucks and motor truck chassis increased 26 per cent in number and 57 per cent in value for October, 1921, over September, according to the monthly report of the Bureau of Foreign and Domestic Commerce, Department of Commerce, Washington.

Completed trucks for September totaled 239, valued at $238,610, while October showed 254, valued at $244,669. Exportation of chassis totaled 233, valued at $243,054 in September, and 341 at $510,427 in October. Mexico led the field with 82 completed trucks and 95 chassis. This is a considerable increase over September, which only totaled 72 finished trucks and chassis. Brazil received 75 chassis, as compared with only 2 in September.

It is noticeable that the increase in chassis exported greatly exceeds that of complete cars exported; this may be the result of high duties imposed in many countries upon the importation of bodies and the relative cheapness of manufacturing truck bodies, as compared with the high cost of duty and freight on their import.

The passenger car exportation was not nearly as great an increase as that of trucks. A 6 per cent increase in number and 4 per cent in value is recorded for passenger cars for October.

Dyersburg Dealers Form Association

A trade association to be known as the Dyersburg Automobile Dealers' Association has been formed by automotive men of Dyersburg, Tenn., with the motto, "A Square Deal." Officers have been elected as follows: W. C. Paris, president; H. B. Burks, vice president, and H. O. Shelby, secretary-treasurer.

S. A. E. Will Hold Truck Transportation Session

The session on motor truck transportation problems to be given during the annual meeting of the Society of Automotive Engineers in New York, January 10 to 13, should elicit great interest from the members of the commercial car industry. According to a partial program just published, this session will be held Wednesday afternoon, January 11, at 2 o'clock.

During this conference M. C. Horine, who is associated with the International Motors Co., will read a paper on motor transport. Mr. Horine has put much time on an exhaustive analysis of the economics of truck transportation and a most instructive paper can be expected.

The Materials session is planned for January 12 at 2 o'clock. Among the papers to be presented at this session is one on "Aluminum Alloys," by Zay Jefferies, of the Aluminum Manufacturers, Inc., a timely and most important subject; a paper on rolled forgings, by G. R. Norton, of the Witherow Steel Co.; a discussion on malleable cast iron, by Enrique Touceda, and a paper entitled "The Application of Chrome Molybdenum Steel from the Consumers' Standpoint," by C. N. Dawe, metallurgist with the Studebaker Corp.

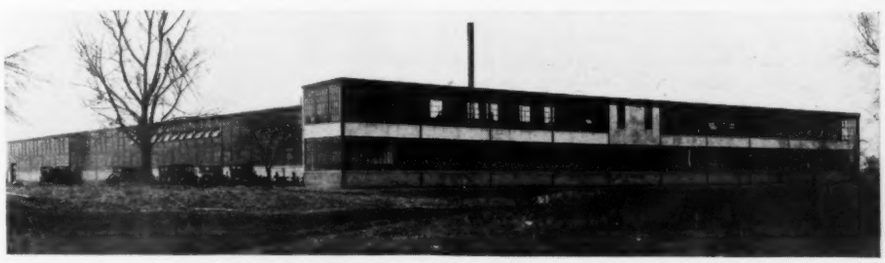
Other sessions include Body Engineering and Passenger Car Session. Some of the problems to be treated are lubrication, flame propaganda and a comparison of braking systems.

The carnival this year will take place at the Hotel Pennsylvania. C. F. Kettering is expected to be toastmaster at the annual banquet.

Piston Ring Hammering Machine at A. E. A. Show

An automatic hammering machine, used for hammering piston rings, was in operation at the Automotive Equipment Association show at Chicago recently as part of the exhibit of the American Hammered Piston Ring Co. During the show piston rings were finished on the machine and distributed as souvenirs. The exhibit attracted much attention.

Every step in the development of the Ideal Section of the Lincoln Highway in Lake County, Indiana, is to be filmed and photographed for record.



New Factory of Hinkley Motors, Inc., at Ecorse, Mich.

This building, which is built of brick and steel, comprises 100,000 sq. ft. and has been designed and equipped especially for the production of Hinkley Heavy Duty automotive engines. President C. C. Hinkley declares that the new factory makes possible large economies in overhead and labor—a result toward which efficient production arrangement and reasonable investment due to low building costs have notably contributed.

N.A.C.C. Condemns Manufacturers' Overloading Certificates

AT the time of going to press, resolutions condemning the recent ruling of the Connecticut Motor Vehicle Commissioner that truck overloading in Connecticut will be permitted on manufacturers' certificate, were unanimously adopted by the National Motor Truck Committee of the National Automobile Chamber of Commerce in collaboration with the Motor Vehicle Conference Committee. The meeting, called by Chairman Windsor T. White for the consideration of the Connecticut ruling, was held at the N. A. C. C. headquarters, New York City, December 6.

As information indicated that Massachusetts, New Jersey, Maryland and other states are likely to adopt a similar ruling and permit overloading if manufacturers issue such certificates, the problem resolved itself into one of vital importance to all those connected with the motor truck industry.

The N. A. C. C. is to be commended on its quick action, and it is hoped that the resolutions will be the means of breaking up this pernicious encouragement of the overloading evil.

The resolution re: Connecticut Ruling is as follows:

WHEREAS, The National Automobile Chamber of Commerce has consistently opposed the overloading and overspeeding of motor vehicles for the safety of the public, the protection of the investment of the operator, and the protection of the reputation of the manufacturer, and

WHEREAS, The N. A. C. C. is convinced that it must continue to oppose the overloading and overspeeding of motor vehicles for the protection of the public highways over which such vehicles operate, and for the protection of the motor vehicle industry against restrictive legislation practically prohibiting the economic operation of motor vehicles—particularly the operation of trucks engaged in the transportation of people and produce, and

WHEREAS, Certain states have enacted laws permitting the registration of motor vehicles with a carrying capacity in excess of the manufacturers' rated carrying capacity upon the production of a certificate from the manufacturer that such motor vehicle can be "safely operated" "under all conditions" "at all times" and some manufacturers have given such certificates, and

WHEREAS, It is the conclusion of the N. A. C. C. that the giving of such certificates authorizing the carrying of loads in excess of the rated carrying capacity of such motor vehicles under the conditions of such laws is dangerous because of, first, contingent liability on the manufacturer in case of accident, both personal liability and property damage; second, claims under the manufacturers' warranty for breakage and defects resulting from overloading authorized by such certificate; third, for the far-more important reason that the acquiescence of motor vehicle manufacturers to overloading will be immediately seized upon by legislators as a basis for further restrictive legislation and higher license fees, and will immediately deprive the manufacturers of the co-operation of the Bureau of Public Roads of the Department of Agriculture, the State Highway Commissioners, and public road officials in their attempt to reach a practical solution of the highway problem in its relation to motor vehicle transportation; and fourth, the granting of certificates by manufacturers permitting overloading violates not only every engineering and manufacturing principle, but every principle of clean, competitive selling, and can only result in misunderstandings and sales resistance, as having once departed from a national understanding and enforcement of the manufacturers' rated carrying capacity, there is no limit on overloading than can be accepted as a standard. Now, therefore, be it

RESOLVED, That the N. A. C. C. hereby reaffirms its policy of being unalterably opposed to overloading and overspeeding of motor vehicles, and that it condemns the practice of giving certificates authorizing the loading of motor vehicles beyond the manufacturers' published rated carrying capacity, and urges its members to discontinue the granting of such certificates, and be it

FURTHER RESOLVED, That the N. A. C. C. continue to co-operate with the Bureau of Public Roads of the Department of Agriculture, the State Highway Commissioners, and other public road officials, in stamping out the overloading and overspeeding evil for the safety of the public and the protection of motor vehicle transportation over the highways, and be it

FURTHER RESOLVED, That a copy of these Resolutions be forwarded to the Bureau of Public Roads of the Department of Agriculture and the National Association of State Highway Officials.

Conservative, Balanced Inventories the Watchword for 1922

The necessity of maintaining conservative, balanced inventories was the lesson learned by automotive companies during 1921, according to the majority of replies received from 400 affiliated manufacturing concerns of the Motor and Accessory Manufacturers' Association. The replies were made to the question, "What is the paramount lesson learned by the automotive industry in 1921?" asked by the M. & A. M. A.

Corollaries of the above-mentioned reply by many of the companies were the danger of over-expansion and over-optimism, the menace of "over" overhead; the necessity for rigid but sound economics and the elimination of rainbow chasing. General conservatism in buying, greater prudence in making committments and closer period buying were mentioned by nearly all the executives who contributed to the symposium as last year's principal contribution to business wisdom.

Canada to Form N. A. D. A.

The establishment of a National Automobile Dealers' Association throughout the Dominion of Canada is officially under way and will probably be announced as a reality before many weeks. The idea for a national organization for the Dominion saw its birth in January, 1921, when dealers from all parts of Canada congregated at Ottawa to protest against the abolishment of the "luxury" tax on automobiles without a rebate of tax on unsold cars in the hands of dealers. This tax represented 15 per cent on the value of a model.

The basis for the new association consists of the Provincial trade organizations which have been operating as sections of Retail Merchants' Associations of various provinces. The strongest of these are found in Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. In the Province of Quebec there are strong local organizations such as the Montreal Automobile Trade Association. These also will probably be welded into the national organization.

Seiberling Reveals Plans for Tire Production

Detailed plans of F. A. Seiberling, former president of the Goodyear Tire & Rubber Co., have been made public with the incorporating of the Seiberling Rubber Co. under the laws of Delaware. The new company will sell 50,000 shares of preferred stock at $100 and 500,000 shares of common of no par value at $10 a share.

Two companies, the Lehigh Rubber Co., of New Castle, Pa., and the Portage Tire & Rubber Co., of Barberton, O., recently acquired by Mr. Seiberling will be placed in operation to afford a production of 5000 tires and 6000 tubes daily. There is a possibility that the Star Rubber Co., of Akron, may become a part of the unit.

The sales of the Portage Co. was recently confirmed in the Federal Court following the withdrawal of the Portage stockholders' petition. It was explained to these stockholders that Mr. Seiberling, in taking over the Portage Co., will turn it over to the Seiberling Rubber Co. without profit to himself.

Highway Transport Course Details Are Announced

A schedule for the Graduate Short Period Courses in Highway Transport at the University of Michigan, Ann Arbor, has been announced by Arthur H. Blanchard, professor of Highway Engineering and Highway Transport. This course is offered for men engaged in the practice of highway transport, and is given in periods of two weeks each. The schedule, which began December 5, is given.

December 5 to 16, 1921. C. E. 81. American and English Highway Transport Methods. Prof. Blanchard.

December 19 to 31, 1921. C. E. 79. Highway Transport Legislation and Traffic Regulations. Prof. Blanchard.

January 2 to 13, 1922. C. E. 80. Interrelationship of Highways, Railway and Waterway Transport. Prof. Riggs.

January 16 to 27, 1922. C. E. 82. Highway Transport Costs and Record Systems. Prof. Smith.

January 30 to February 10, 1922. M. E. 40. Mechanism, Operation and Maintenance of Motor Trucks, Tractors and Trailers. Prof. Lay.

C. E. 84. Highway Transport Management. Prof. Smith.

February 20 to March 3, 1922. C. E. 67. Highway Transport Economics and Surveys. Prof. Blanchard.

March 6 to 17, 1922. C. E. 83. Highway Transport Seminar. Prof. Blanchard.

NEW COMMERCIAL CARS

Stoughton Speed Truck Replete With Features

THE engineers of the Stoughton Wagon Company, of Stoughton, Wis., in designing the Stoughton high speed light truck entered into study of the constructional needs of speed truck design exhaustively before they decided on the final design. In it they have incorporated various features making for economy in speed truck operation. It is known as the Model C light speed truck.

The frame is similar to the frame used by the U. S. Government on the Signal Corps truck during the war. The side members are four-inch channel with two-inch flange, pressed from high carbon steel and reinforced with another channel inside of the regular side member from the engine to the rear cross member. This construction is intended to more evenly distribute load weight.

An extra heavy bevel gear rear-axle, giving a final gear ratio of 5.87 to 1, is used. This axle is said to make possible the attaining of a speed of 40 m.p.h., with the rated load. The usual internal expanding and external contracting brakes are assembled with this axle.

The gears of the transmission are constantly in mesh and by a special arrangement shift may be made from one speed to another at any engine speed with no clashing of gears, nor any danger of damaging the transmission. The special arrangement is an exclusive Stoughton feature.

Larger than the radiator conventionally used in a job of this type, this radiator is stated to be particularly adapted to severe service. It is of the tubular truck type and is mounted on rubber pads to absorb vibration.

Ample loading space and space for a comfortable cab is provided by a 132 in. wheelbase. The loading space is 92½ in.

A multiple-disk, dry-plate clutch, with provision for adjustment, and designed with large sized steel and Raybestos disks, controls the transmission of power.

Easy riding is afforded through the use of long, semi-elliptic alloy steel springs which are designed to carry maximum load properly.

The engine is a four-cylinder, cast in block, detachable head, L head type, having a bore and stroke of 3½ in. x 5 in., respectively, mounted in unit and suspended from three points. Ignition is by Willard battery, Westinghouse coil and distributor. S. A. E. hp. rating is 19.6. Lighting and starting is by Westinghouse generator and starting motor.

Power is transmitted from the gear-set to the rear axle through an alloy steel tubular propeller shaft equipped with Thermoid Hardy universal joints, consisting each of three and one-half inch disks.

Lubrication of the various parts of the chassis is taken care of by the Alemite system of lubrication. Provided as standard equipment are large ten-inch electric lamps with non-glare lenses, mounted on the frame alongside of the radiator.

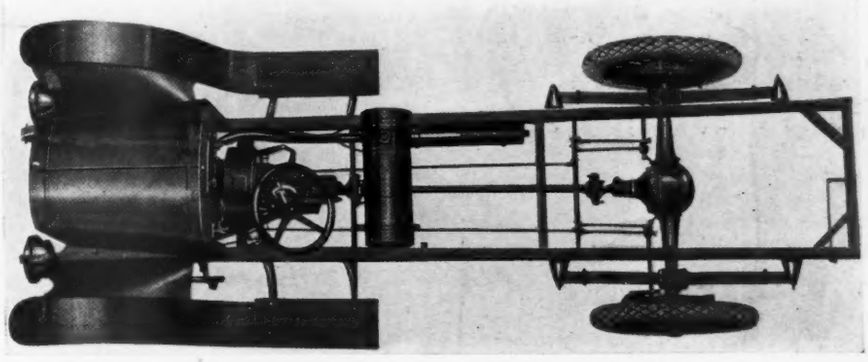
Bodies of all descriptions are furnished. The Stoughton plant includes a completely equipped body factory. The manufacturer points out that only best grade hardwood is employed in all frame construction and quality grade panel stock on all the express and panel bodies. The old fashion lead and oil system of painting is the method pursued in the finishing of body work.

The following is a list of the major specifications not mentioned above:

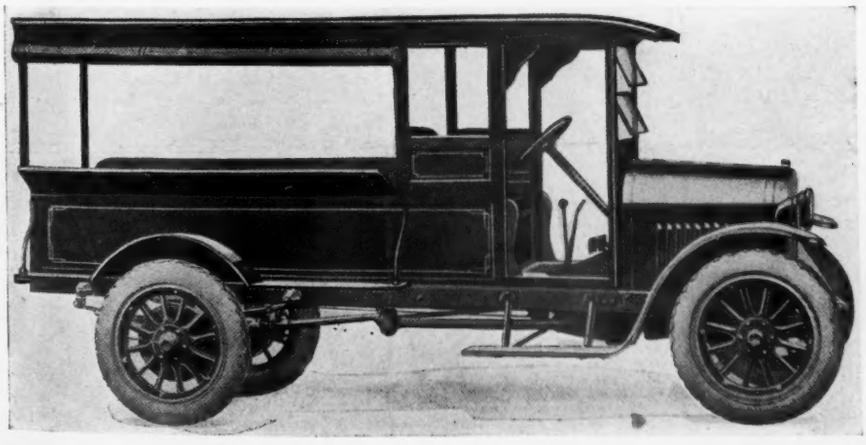
Carburetor: Stromberg. Gasoline tank: under seat; gravity feed; 11 gal. capacity.

Cooling system: Thermo-syphon.

Front axle: I beam, drop forged. Clearance: 12 in. Tread: 56 in. Bearings: taper roller.



Plan Showing General Disposition of Units



New Stoughton Model C Light Speed Truck Equipped With a Six Post Covered Express Body, Side Curtains, Ventilating Windshield. Price, $1386

Rear axle: bevel gear type with taper roller bearings.

Clearance: 10¾ in. Tread: 56 in. Gear ratio: 5.87 to 1.

Total gear reductions: low: 23.5 to 1. Second: 9.86 to 1. High: 5.87 to 1. Reverse: 25.56 to 1.

Tires: 34 x 4½ pneumatic Allweather cord, rear. 34 x 4½ pneumatic ribbed cord, front.

Steering gear: worm and nut type semi-reversible.

Transmission: Stoughton special; gears constantly in mesh; key shifting type.

Gear ratio: low: 4 to 1. Second: 1.68 to 1. High: 1 to 1. Reverse: 4.35 to 1.

Universal joints: thermoid disk 7½ in. x 5-16 in.

Springs: front 2¼ wide by 40 in. long; full alloy; leaves, 6. Rear 2½ wide by 50 in. long; full alloy; leaves, 6.

Dort Adds Delivery Car to Its Line

THE Dort Motor Car Co., Flint, Mich., announces an addition to its line in the form of a new 1000 lb. delivery car.

This new model is standardly equipped with lamps, lamp brackets, front fenders, running boards, radiator hood, windshield, seat frame, cowl board and body to rear of front seat. With this equipment three styles of body equipment are offered, namely: plain driver's cab and curtains; cab, curtains, and all-steel express body; and cab, curtains, express body and canopy top. The prices range from $685 to $825 f.o.b. factory.

The engine is of the four cylinder, cast-in-block, removable-head type with valves located on the right side. The bore and stroke is 3½ in. x 5 in., respectively. The connecting rods are drop forgings and the crankshaft is a heavy forging of .40 carbon steel. Upper half of crankcase is cast iron. The oil pan is a steel stamping and easily removable. Lubrication is force feed and splash with plunger pump. Thermo syphon system of cooling with liberal water-jackets and cellular type radiator is employed. The engine and radiator capacity is 5 gal. Cooling is further aided by a four-blade, belt-driven fan.

Ignition is by Connecticut battery system. Switch, combined with controlling lights, is carried on the instrument board. An American-Bosch starting motor geared to flywheel by Bendix drive is used. The lighting system includes a gear driven American-Bosch generator, ammeter and U. S. L. battery. Easy starting and economical gasoline consumption is claimed to be afforded through the Carter improved side outlet type of carburetion. Gasoline is stored in a 14-gal. tank suspended at the rear end of the frame. It is furnished with a filler and gasoline gage. Gasoline is vacuum fed to the carburetor.

A leather faced cone clutch with sufficient compensating springs to insure easy engagement controls the transmission of power. From the clutch, which is mounted in unit with the engine and transmission, the power is received by a selective type transmission, providing three speeds forward and one reverse.

Final drive is through a three-quarter floating, rear-axle, having nickel steel gears and spiral bevel ring and pinion. The differential and pinion are adjustable in both directions from outside of the case. The propeller shaft is mounted on Timken roller bearings, and axle shafts are on Hyatt high-duty roller bearings.

Both emergency and service brakes are provided. They are of the internal expanding type, operated by hand lever and external contracting type operated by foot pedal, respectively.

The front axle is of the conventional "I" beam section. The steering knuckles and levers are of drop forged steel. The steering gear is of the improved nut and screw type.

Extra heavy pressed steel is used in the frame. It is narrow in the front to permit of a short turning radius, and is mounted on two semi-elliptic springs in the front and two cantilever springs in the rear. The front springs are 2 in. wide and 37½ in. long and the rear, 2 in. x 48¾ in.

Artillery type wheels, having 12 spokes and equipped with demountable rims and 31 x 4 non-skid pneumatics front and rear, are used.

The body is all-steel construction with wooden boards and provides a loading space of 46 in. x 72 in. The fenders and hood are of heavy gage steel with baked enamel finish and the top is furnished with heavy black oiled duck curtains. The windshield is of the double adjustable type with lower glass curved to match top of cowl. A Stewart speedometer, illuminated by an instrument plate lamp, is on the cowl instrument plate.

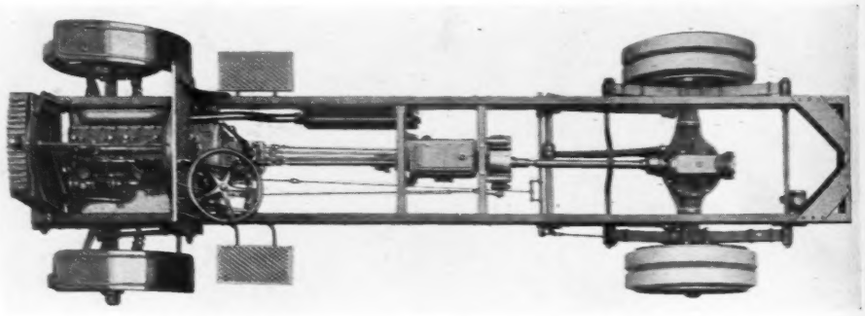
Standard equipment includes electric lights, American-Bosch starting motor and generator, U. S. L. 6-94 battery, horn, speedometer, ammeter, lighting and ignition switch, demountable rims, extra rim, license plate holder, tire carrier, and complete tool equipment.

New Series of Schacht Trucks

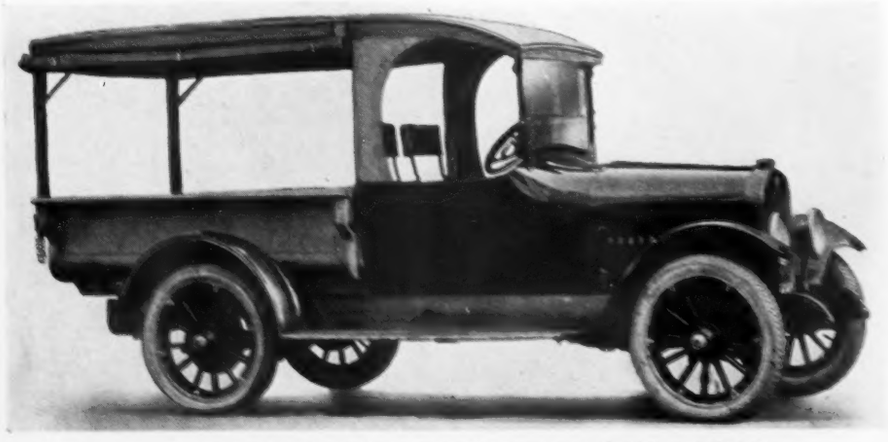
THE G. A. Schacht Motor Truck Co., Cincinnati, O., in announcing its new series of Schacht trucks, embracing four models—two, three, four and five tons—states that they are but a further development in simplicity and accessibility of design essentially unchanged from the original Schacht trucks.

All features distinctive of Schacht design have been maintained. One of the improvements incorporated in the series is the "ten-speed" or "two-range" transmission, which has been placed amidships to afford greater accessibility for adjustment or repair.

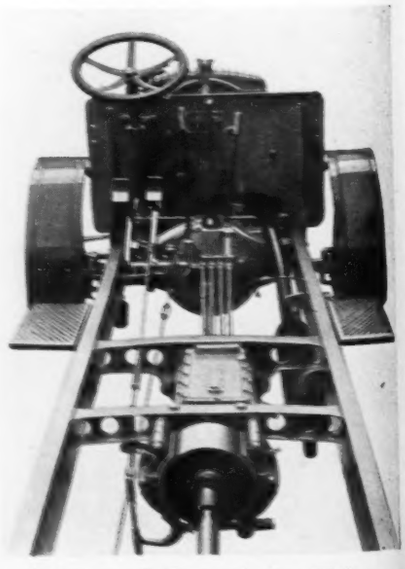
The "ten-speed" transmission contains four more gears than contained in the ordinary four-speed gear-set, but provides



Showing Complete Layout, Typical of the New Schacht Series



Recently Announced One-Half Ton Dort Delivery Model



Close-up of Transmission Units

a greater range of gear reduction with, it is pointed out, a greater range of power and speed at reduced engine speed.

Other advantages derived from this type of transmission are described as follows: For smooth roads and good going, faster vehicle speed is obtained without exerting the engine to any great effort and without any vibration or harmful effects on the engine or chassis. On bad roads or steep grades sufficient power is available to move truck and load under almost any condition within the range of truck operation.

Another feature emphasized by the manufacturer is that every wearing part is bronze lined. Drop forgings are also used wherever possible.

Maccar Offers New Two-Ton Truck

WITH the addition of the recently announced Model HA two-ton chassis, the line of the Maccar Truck Company, Scranton, Pa., has been enlarged to include five different models. These are as follows: 1½, 2, 2½, 4 and 5 tons. This range of capacity is described as particularly desirable as it permits adaptation to any transportation requirement.

The Model HA is essentially an assembled proposition of well-known units, and as may be observed from the accompanying illustration, has been designed with a view of securing an even disposition of components and a severe-duty durability.

A 4-cylinder, L-head valve type, model K-4 Continental engine, having a bore and stroke of 4⅛ in. x 5¼ in. respectively, is used. It has an N. A. C. C. rating of 27.2 hp. Engine speed is controlled by a Mueller governor. The force-feed system of lubrication is employed, and the cooling fluid is circulated by a centrifugal pump. The cooling system includes a radiator of Maccar construction and of the fin and tube design.

Fuel is fed to a Zenith carburetor by gravity. Ignition is by Eisemann high tension magneto.

From the engine the power is transmitted through a Brown-Lipe clutch to a Brown-Lipe gear-set mounted in unit with the clutch and engine. This transmission provides three speeds forward and one reverse. The Spicer universal joint equipped propeller shaft carries the power to a Timken, full-floating, worm rear axle, which provides a total gear reduction in high of 8.5 and in low of 45.47.

The steering gear, which is of Ross manufacture, is mounted on the left side. Gear shift levers are centrally located. In addition to the throttle mounted on the steering wheel together with the spark control a foot accelerator is provided on the toe board.

The pressed alloy steel, heat-treated frame, 6 3-16 in. deep, 2½-in. flanges, ¼ in. thick, is mounted on four semi-elliptic springs of Merrill make. All torsional strains are taken through a radius rod. The wheels are steel and are solid tire equipped with 36 x 4 singles in front and 36 x 4 duals in rear.

The weight of the chassis is 5200 lb.; the wheelbase is either 150 or 162 in., as desired. The per cent of total load on front wheels is 30 and on rear wheels, 70.

The standard equipment includes side and rear oil lamps, horn, tool box, jack and complete set of tools, seat, 40-spring upholstered cushion and comfortable padded back. The list price is $3300.

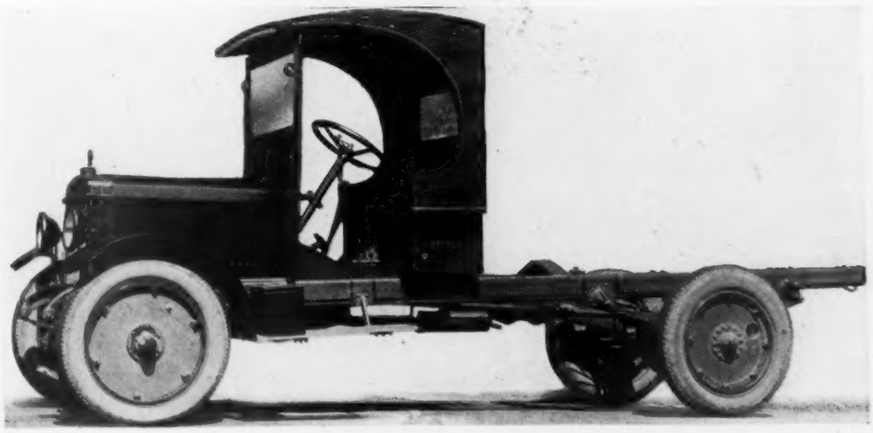
Model HA Two-Ton Chassis Latest Addition to Maccar Line

Drake Two-Ton Truck Contains Standard Units

IN announcing its new two-ton truck the Drake Motor & Tire Mfg. Corp., Knoxville, Tenn., lays special emphasis on the factor of economy. Maintenance is said to be kept to a minimum by reason of mileage and reduced service costs. The maker describes this job as being simple as well as strong in construction and embodying only well known units. Starting and lighting is furnished as regular equipment. Other equipment supplied is stated to make for increased comfort and convenience.

Vibration is said to have been reduced to a point of negligibility through the use of a six-cylinder engine and heavy pneumatic tires. The engine is of Herschell-Spillman make, Model 11,000, and is capable of developing 57 hp. at 2000 r.p.m. It has a bore and stroke of 3¼ in. x 5 in., respectively. Speed is controlled automatically by a Monarch governor.

Ignition is by a high tension Berling magneto, Type E-61, and carburetion is through a Zenith, Model Q5C, which is of the latest improved type. The carburetor is fed from a 20-gal. tank located under the seat by Stewart-Warner vacuum feed. Starting and lighting is provided by a Bijur two unit type system and a 6-volt, 100-ampere, rubber insulated Willard battery. The cooling system includes a heavy-cast-iron type, special design radiator with spring suspension.



Drake Offers This New Two-Ton Model Specially Equipped

From the engine, power is carried through a Borg & Beck, 10-in., Model DX, multiple-disk, dry-plate clutch to a Grant-Lees, Model 515 transmission, providing three speeds forward and one reverse. Engine, clutch and transmission is mounted in unit. Final drive is through a Wisconsin heavy worm drive type rear axle providing the following optional axle ratios 9 1-3, 8 1-3 or 7 1-3 to 1. Driving torque is taken through the springs, the Hotchkiss type of drive having been decided upon.

The steering gear is of the block and worm type with a 20 in. steering wheel. The heavy pressed-steel channel section, 6¼ x ¼ in. frame is well braced by five cross-members. It is mounted on four semi-elliptic springs made of carbon steel and provided with heavy spring bolts. They are of heavy construction and have a patented oiling groove in each leaf. These springs measure 38 x 2¼ in. front, and 54 x 3 in. rear.

Disk-wood wheels equipped with Firestone cords, 35 x 5 front and 36 x 6 rear, are used. Alemite high pressure system furnishes lubrication to every outside wearing surface.

The chassis weight is approximately 3600 lb.; body weight allowance, 1100 lb., wheelbase, 140 in. Special types of bodies furnished in order; cabs provided as standard equipment unless otherwise ordered.

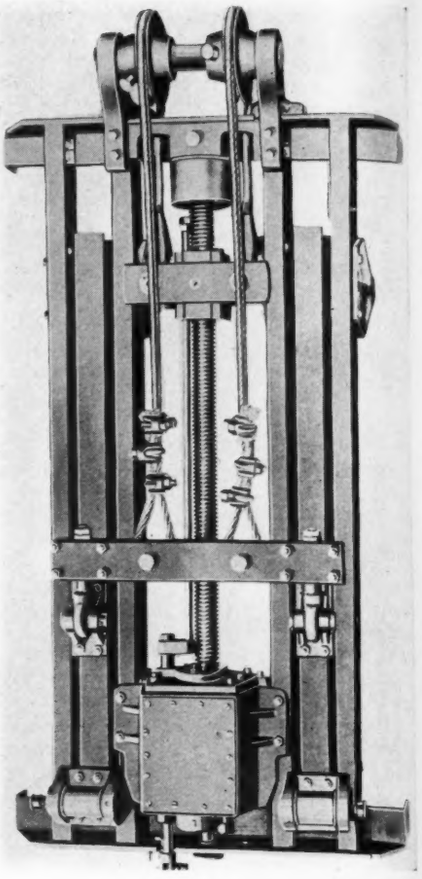
Perfection Horizontal Mechanical Hoist for Dump Trucks

BEFORE work was commenced on the designing of the Perfect Horizontal Mechanical non-hydraulic hoist, now being produced by the Perfection Hoist & Engine Co., Two Rivers, Wis., a thorough survey was made of all the different makes of hoists now on the market and of the various conditions and requirements under which hoists are called upon to operate in all classes of work. This survey has enabled the engineers of this concern to take advantage of the experience of others with a view of developing a hoist of improved construction. The result is that the Perfect hoist embodies exclusive features in construction and operation.

This hoist consists of a structural steel frame for mounting on the chassis of the truck and supporting the operating mechanism. Motive power for lifting is supplied from truck transmission through a power-take-off under control of a clutch, operated from the driver's seat. Power is transmitted through hoist transmission to a horizontal screw causing either right or left hand rotation as desired.

A self locking nut supports a patented equalizing yoke which is attached to the lifting cables. The nut travels along the screw, drawing in the two cables which run over two grooved pulleys. This in turn raises the body through the lifting arms to any angle desired up to 45 deg. or 55 deg. in special cases. To lower the body it is only necessary to reverse the direction of the screw rotation by means of control lever. Automatic stopping devices stop body at full tilting angle and when returned to normal position. Being a horizontal hoist with its lifting mechanism entirely underneath the body, use of the full loading space is obtained. Hoisting strains are distributed 57 in. along the truck chassis over rear axle and rear spring. It is said that there is no concentration of strain on truck chassis when raising the body. Hence, buckling or breaking of chassis frame is eliminated.

The mechanical action of an exclusive self locking screw is said to enable the stopping of the body at any angle from 1 to 45 deg., where it can be suspended indefinitely without fear of the body coming down. This feature is particularly desirable in road building work when a spreading device is used, or any place when it is necessary to leave the body tilted for any length of time.



Detail View of Hoist Mechanism

A patented method of equalizing the hoisting strains permits the truck to stand in any position and dump the load.

No portion of the hoist projects below the truck chassis members, therefore the road clearance is not reduced. The construction of lifting arms and methods of fastening cables are such that bending or buckling is said to have been eliminated.

All moving parts are provided with grease cups.

Perfect hoists are made in three different sizes and these three sizes are designed to cover all makes and models of motor trucks.

Model	Lifting Capacity
2-ton	1-3 tons
3-ton	3-5 tons
5-ton	5-8 tons

If inquiry is made, the following information should be given to enable the company to determine proper size of hoist for certain needs.

Capacity of body.
Material to be hauled.
Style of body.
Make and size of truck.

Perfection Horizontal Hoist Equipped Body Discharging a Load of Bricks

Read the January number of the CCJ:

The 1922 MOTOR TRUCK SHOW

Fruehauf Introduces Two New Special Trailers

THE Fruehauf Trailer Co., Detroit, Mich., has recently developed a remarkable trailer which should be a big help in saving the roads—and yet permit the carrying of heavy loads. The trailer is of semi-type, having four wheels at the rear, each side by side, instead of two, as is usually furnished on semi-trailers. This idea makes it possible to have the load distributed over more wheels, and makes less of a load per square inch of rubber.

One of the illustrations shows one of these 20-ton trailers which was sold to the Detroit Creamery Co., who work on a daily schedule, carrying 20 tons of milk from Mt. Clemens to Detroit. This truck and trailer are claimed to be doing the work of two trucks at one-half the cost.

The Board of County Road Commissioners have approved this type of trailer and believe that this is the means of solving the problem of how to carry heavy loads—and yet not injure the roads.

The following are specifications of this 20-ton special semi-trailer:

Frame: 8 in. channel, 18 ft. long by 8 ft. wide.
Axles: Two, 3 x 4 in. Timken roller bearings.
Springs: Four, 52 x 3½ in., 17 leaves, ⅜ in. thick.
Wheels: 40 x 10 in. wood, artillery type.
Tires: 40 x 10 in. Firestone Giant.
Trailer Supports: Fruehauf Adjustable.
Fifth Wheel: Fruehauf Automatic.
Capacity: 20 tons.

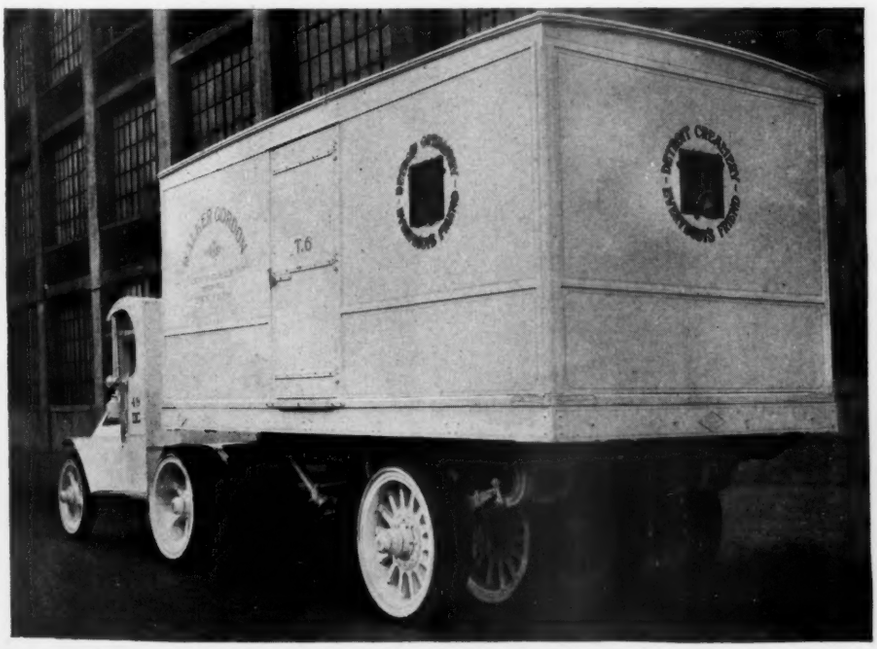
The trailer is also equipped with Fruehauf Automatic Fifth Wheel and Trailer Supports, which permit the truck to back up underneath a loaded trailer and couple automatically. The fifth wheel is made with an incline towards the rear, so that coupling and uncoupling can be done in one and one-half to two minutes' time.

Another development of this company is a four-wheel trailer of 15 tons capacity, which is claimed to have solved the problem of heavy machinery hauling via motor truck. All the usual troubles experienced in this kind of hauling are said to have been eliminated. The main difficulty with which the operator is confronted in the transportation of heavy machinery is the height of the load on the average truck. The makers point out that this troublesome feature has been successfully met, in that this trailer is designed with a platform sloping to the rear and provided with a tailgate that may be lowered to the ground. This construction provides a runway or skid, up which heavy machinery can be moved.

The trailer is particularly adaptable for moving steam rollers, safes, caterpillar tractors and machinery of all kinds.

It is equipped with Sewell cushion wheels to relieve the trailer of road shock. The platform of the trailer is 34 in. high, and with the tailgate down, any steam roller can be rolled up it on its own power.

The Runway on This 15-Ton Trailer Permits of Easy Heavy-Machinery Loading



Novel Design Originated by the Fruehauf Co., for Reducing Road Pressure Per Square Inch of Area

The accompanying illustration is that of a trailer recently sold to the City of Detroit for the Asphalt Department, especially used in hauling steam rollers from one part of the city to the other.

Brief specifications of this job follow:

Length: 19 ft. 10 in.
Width: 72 in. wide inside. Overall, from hub to hub, 106 in.
Frame: 8 in. steel channel, reinforced with 3 x 4 in. angle iron.
Floor: Steel plate, with wood floor strips to prevent steam roller from slipping.
Body: 19 ft. 8 in. by 72 in., with tailgate to drop down and act as runway to drive up heavy machinery. Tailgate is too heavy to operate by hand, so it is operated by means of cable and windlass on front part of trailer.
Wheels: 36 x 12 in. Sewell cushion rear; 36 x 7 in. front.
Tires: 36 x 7 in. dual rear; 36 x 7 in. single front.
Axle: 5½ in. rd. Timken bearings in rear. 2½ in. rd. Timken bearings in front.
Springs: 42 x 3 in., 14 leaves in front; no springs in rear.
Steering: One end circle steer.
Windlass: Klemm, 3 tons capacity.

Road Builder's Portable Turntable for Trucks

THE turning of dump trucks on narrow-gage road beds under construction without extreme effort, loss of time, or rupturing soft subgrade, has been one of the most trying problems confronting the road contractor, With the advent of a specially designed turntable this difficulty has become a thing of the past. It is known as the Road Builder's Portable Turntable for Trucks and is manufactured by the Western Structural Co., Moline, Ill.

Four different sizes makes up the company's line, thus permitting adaptation to any capacity truck.

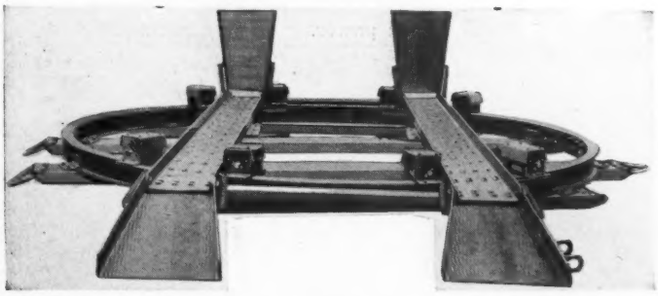
In actual road building the turntable saves time and trouble. The loaded truck drives on the turntable, is turned by an attendant and then backed a few feet to the dumping place. The truck is turned in a space equal to the length of the truck. There is no twisting and turning on a soft subgrade, or knocking out of place of side forms, and with the turntable close to the construction gang, there need be but a short distance to travel backward with the load before dumping. Utilization of this equipment is claimed to exact a saving in less truck wear and tear.

This turntable is substantially constructed of steel. The circle (see illustration) made of channels is hot riveted to three parallel channels upon which it rests. Besides forming the foundation for the circle these under channels provide a means for attaching clevises for towing purposes. The wheels of the truck pass up on to the table over diamond pattern steel plates to the runways. These plates are pivoted to the ends of the main channels which carry the truck. When the turntable is moved these plates can be turned up over the channels.

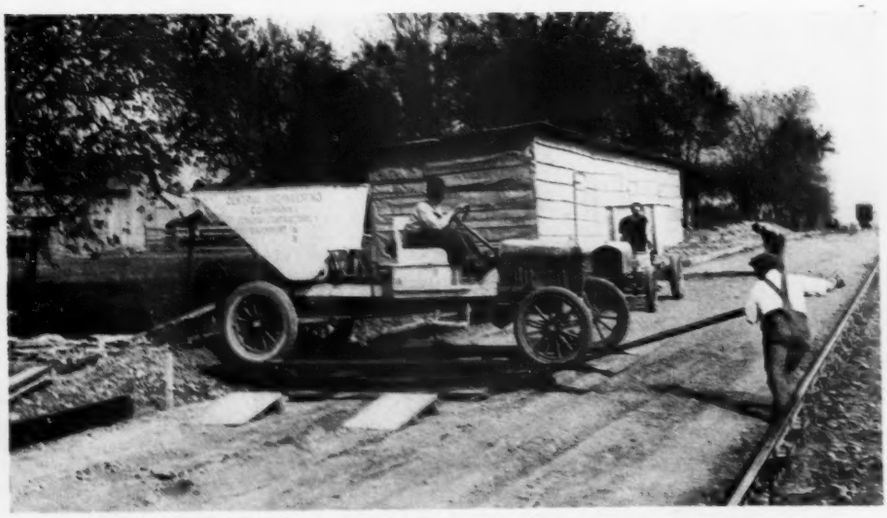
The top runway channels are tied together by steel bars, and carried on rollers that turn on the circle. The rollers are provided with anti-friction roller bearings to insure ease of turning. To facilitate turning, rings are provided in the approaching plates into which long poles are placed, affording greater leverage.

The following dimension table covers all four sizes:

	Size Truck	Weight of Turntable	Price	Max. Gross Load	Circle Track Diameter	Channel Section Runways and Length
1	Ford 1 ton	1700 lb.	$340	7000 lb.	10 ft.	9 in. to 13 ft.
2	1 to 3 ton	4500 "	690	16,000 "	wheel base plus 1 ft.	15 in.
3	4 ton	5000 "	740	20,000 "	Same as 2	18 in.
4	5 ton	6000 "	875	25,000 "	Same as 2	18 to 24 in.



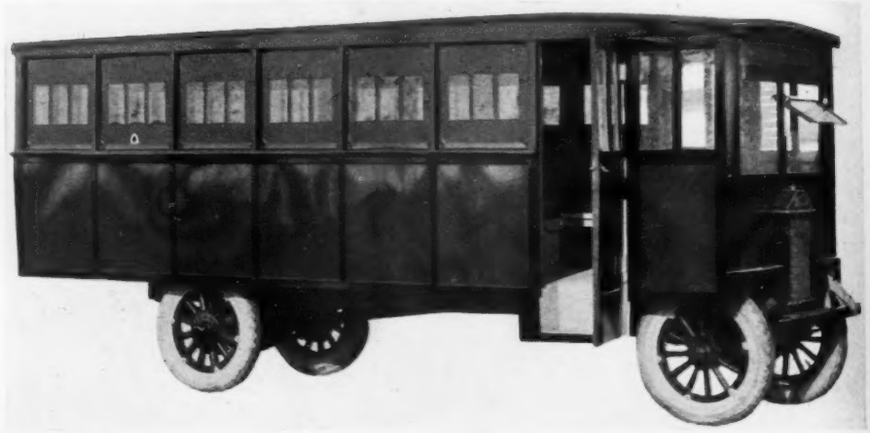
View Showing Principle of Operation and Details of Construction of the Western Structural Co.'s Turntable.

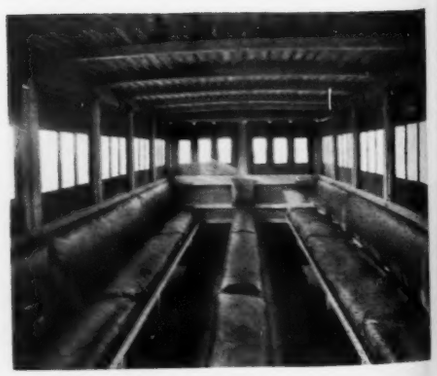


Operation is Simple and Can be Readily Performed by Any One Man

Special School Bus for Rainy Season

Heavy rains which in winter months deluge the Pacific Northwest coastal regions often render some roads impassable and others traversable only under the most adverse conditions. In certain districts the roads become so deep in mud that school children are forced to stay at home rather than endure the torturesome journeys to their places of study. One wise school district has overcome any possibility of inconvenience to its school children by devising an especially built





Exterior and Interior Views of Bus Employed in the Transportation of Washington School Children

truck body to carry pupils from Alma to Aberdeen, Wash., a distance of 16 miles.

Every precaution for safety and comfort has been provided. The cabin contains three rows of cushioned seats which accommodate 40 persons. The dimensions of the body are 13 ft. 8 in. by 6 ft. 6 in. The interior is heated from the engine exhaust and the coach is dust and wind proof. In order that there may be no accidents in entering and leaving, all students must pass through a single door which is under constant surveillance of the driver and the door cannot be opened until the car has been brought to a full stop. The body is mounted upon a ton and a quarter Samson truck. The operation of the newly designed student passenger bus is being watched by a number of school districts with a view to later providing the same service in vicinities offering impediments to school attendance.

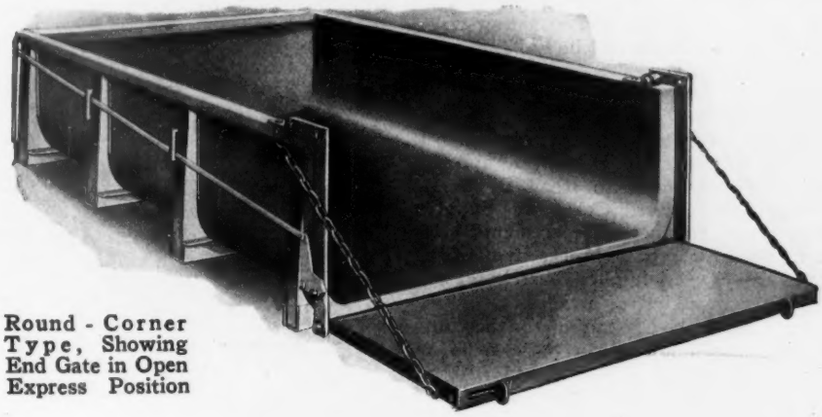
Hughes-Keenan Combination Dump-Express Bodies

The Hughes-Keenan Steel Combination Dump-Express Bodies are offered in all capacities, adaptable to any make or size truck chassis. A new patented method of interlocking is employed in the construction of these bodies. This system, which has long been in force in the steel plants of the Hughes-Keenan Company, Mansfield, Ohio, is considered to be an improvement over the welded or riveted type of body.

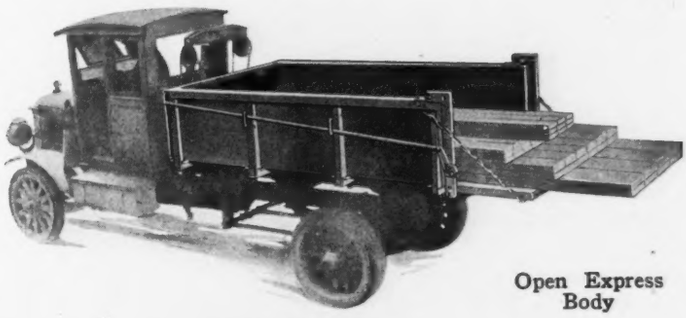
Not only is this interlocking construction stated to give exceptional lightness, but an exceedingly firm and sturdy body as well. Besides, the maker explains, this method of construction makes possible the fixing of low prices.

These bodies are equipped with double acting end gates. By loosening two small thumb screws the dump type is quickly converted into the open express job, thus the user has a body which can always be adapted to various hauling requirements.

Both the square corner and round corner types of bodies are offered. They are constructed of heavy gage metal with substantial reinforcements. In connection with these bodies an efficient hand hoist is furnished. The Hughes-Keenan organization also furnishes All-Steel Standard Open-Express bodies and special Ford Steel bodies.

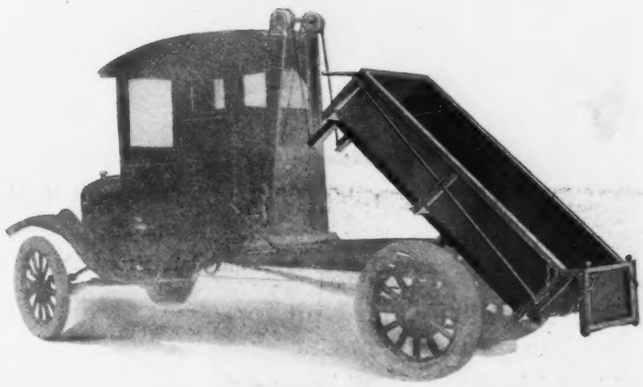


Round - Corner Type, Showing End Gate in Open Express Position

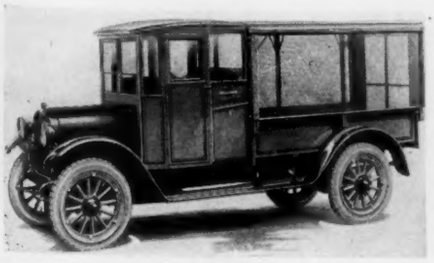


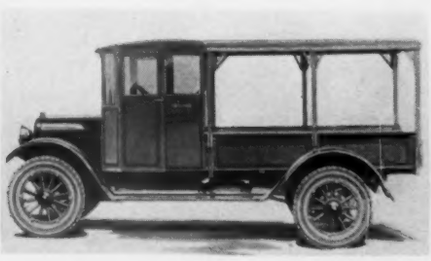
Open Express Body

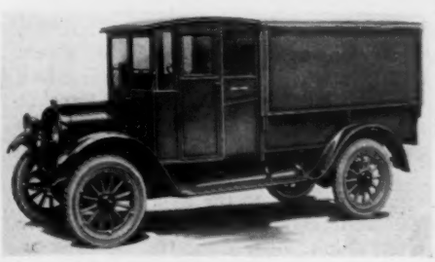
Hughes-Keenan Combination Used as a Dump Body



Ford Type Combination in Dumping Position







The Recent Addition of the Above Three New Bodies Has Brought the Total of Standard Bodies Available on Reo Speed Wagon Chassis to Eleven

As will be noted all three have enclosed cabs, differing only in the type of body, which are obtainable with panelled sides, screen sides or without either. The prices are as follows: The Speed Wagon equipped with open side express body is $1495; with screened sides, $1545; and with panel sides, $1555

Woonsocket Combination Dump Body

The new style No. 3433 Square Cornered Combination Dumping Body, recently designed and now being built in production by the Woonsocket Wagon Mfg. Co., Woonsocket, R. I., combines all of the features of a hand operated dumping body for a 1-ton truck.

The outfit comprises an all-steel body with hoist, and has a double acting tailgate. The sub-frame and body being one unit, readily attaches to a Ford 1-ton chassis.

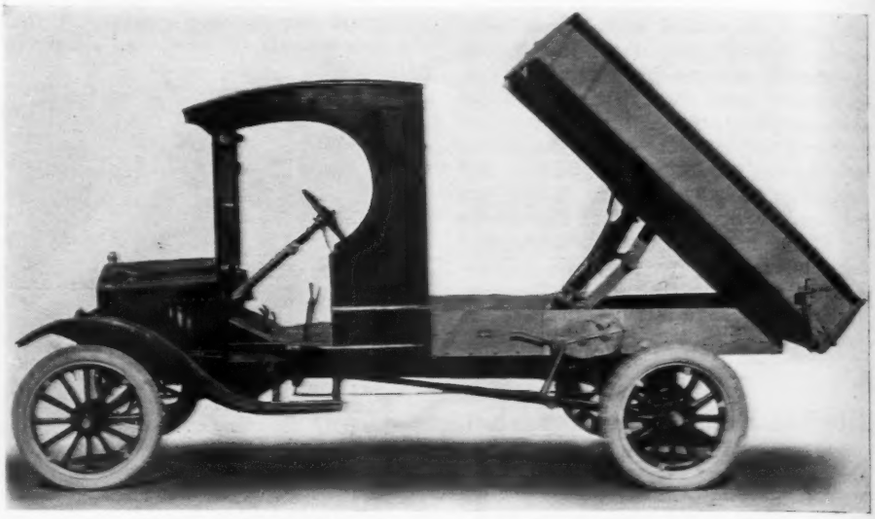
This body is 7 ft. long, 4 ft. 6 in. wide, 12 in. high, with a 4-in. wing. It can be used for any purpose whatever, and is particularly adaptable to Road Builders, General Contractors, Coal and Supply Dealers and Highway Departments. It can be used for express work, farm work or the carrying of lumber, barrels, cases or, in fact, any kind of articles.

The body can be raised to the full dumping position with perfect ease in a very few seconds. It is equipped with a ratchet and brake, so that the load can be held in any position or can be lowered to any height as desired.

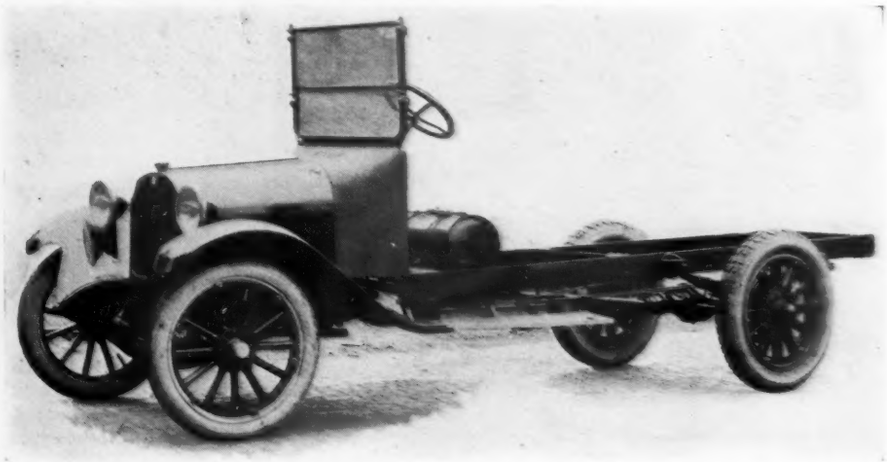
Efficient production methods and quantity production are the reasons claimed to enable the fixing of a low price.

This job also can be used efficiently and economically by coal dealers. A rear elevating attachment is furnished, which can be used in connection with a slide and chute which is put in the tailboard.

The hoist is mechanically simple and effective, and the entire equipment is foolproof. The list price on the plain dumping job is $200. The rear elevating attachment is $25 extra.



All-Purpose Woonsocket Combination Dump Body



E & W Full Frame Unit to Accommodate Front End of a Dodge Bros. Car

E & W Full Frame Unit for Dodge Brothers Car

The full frame unit offered by the E & W Co., 319-329 Oregon St., Milwaukee, Wis., is furnished with a special electric steel front cross member and front spring hanger castings made to accommodate Dodge Bros. radiator, front springs, splash pan and fenders. All holes are drilled in the frame to accommodate motor-steering gear-rear front spring hanger-fenders, etc. A double brake equalizing system is standard equipment.

The one-piece propeller shaft with universal joint next to the axle has nickeled steel front end machined to fit into the universal joint behind the transmission on the Dodge chassis. This furnishes a wheelbase of 140 in.

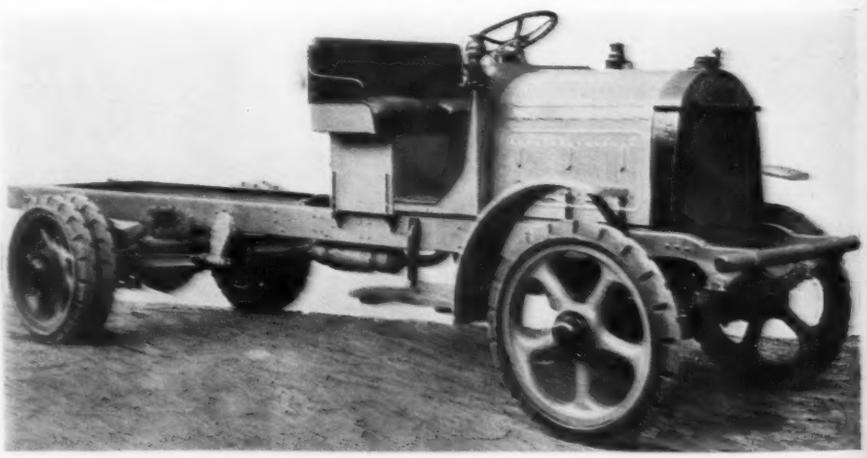
Where a longer wheelbase is desired a standard universal unit with a brake equalizing system furnished at $15 extra.

These units are provided with either Torbensen internal gear drive or standard worm drive rear axles, ranging from 1½ tons to 3 tons capacity. The price, which ranges from $500 to $950, according to capacity and type of rear axle, includes frame, solid tires, bronze bushed springs, one-piece propeller shaft and rear axle.

This company also offers various types of bodies and cabs to be used in connection with its frame units, although they are applicable to standard make chassis as well. These bodies include express, stake, grain and dump with or without cab.

Don't miss the January number:

The 1922 MOTOR TRUCK SHOW



Recently Introduced Koehler Three and a Half Ton Chassis

Note the rugged construction, the general powerful assembly particularly along the center. It is manufactured by the H. J. Koehler Motors Corp., Bloomfield, N. J., and known as Model F. The price is $4150

The Hoopes Metal Felloe Truck Wheel

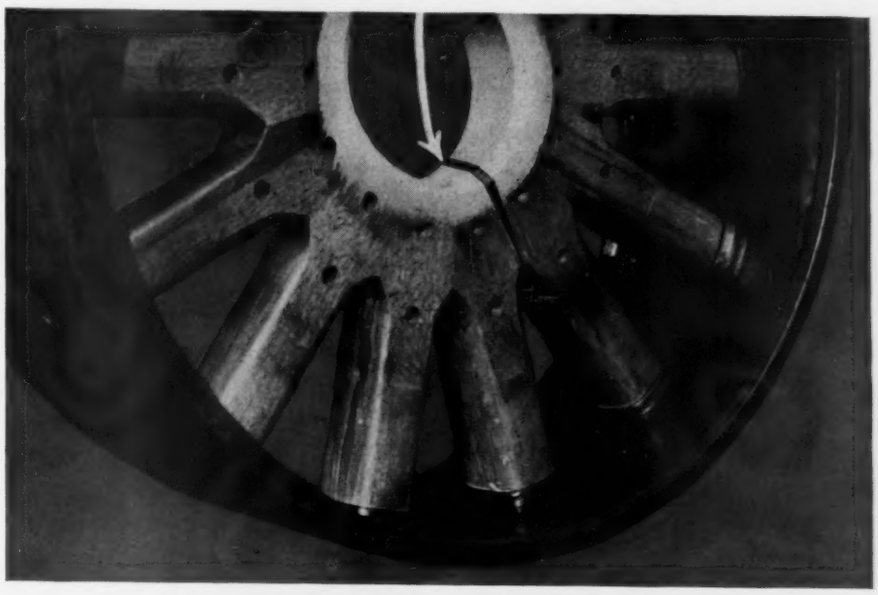
Russel Hoopes, Vice President and Factory Superintendent of Hoopes Bros. & Darlington, Inc., Has Produced a Metal Felloe Truck Wheel Which Will be of Interest to All Truck Producers

HOOPES BROS. & DARLINGTON, Inc., of West Chester, Pa., one of the oldest wood wheel manufacturers, was originally organized by William and Thomas Hoopes in 1867, and throughout all these years have enjoyed an enviable reputation for building wood wheels. With the advent of the motor truck and passenger car, this company naturally bent its energy towards building a wood wheel for these vehicles which would fully meet the requirements entailed in the modern mode of transportation.

In recent years years this company has been giving a great deal of attention to the development of the wood wheel for motor trucks. The company's vast experience with wood wheels has firmly convinced them that a properly designed wood wheel not only has all the advantages of any other type of wheel, but that if the natural characteristics of wood are properly utilized the resultant wheel will, under any kind of actual service conditions, barring accidents, outlast the life of the truck chassis.

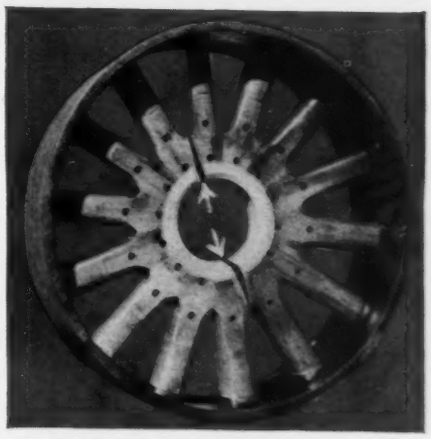
The weakest point of the wood motor truck wheel is where the spoke shoulder seats in the wood felloe. Through the swelling and shrinking of the side grain in the wood felloe, and the constant hammering in service, the end grain of the spoke shoulder seats in the felloe, and starts an action which, after a certain time, results in a loose wheel. Of course, this action might also take place on account of the wheels being made from wood stock which is not thoroughly seasoned, and the felloes in this case dry out and shrink away from the spoke shoulder, thus starting similar trouble. In order to overcome the tendency of the spoke sinking into the wood felloe, Hoopes Bros. & Darlington, Inc., made their truck spokes tapered to get the largest bearing possible on the wood felloe for a given size spoke head. Later they put a flat metal washer between the spoke shoulder and the wood felloe, thus the bearing surface on the wood felloe was about doubled. This method of manufacture is in use by them as a standard article with most of their customers.

About three years ago Russel Hoopes, the vice president and factory superintendent for this concern, began experiments on a metal felloe truck wheel, and after a few months of general experimenting the first wheels were built for test purposes, and these wheels, after considerably more than two years of trial, are still in service, apparently in as good shape as ever.



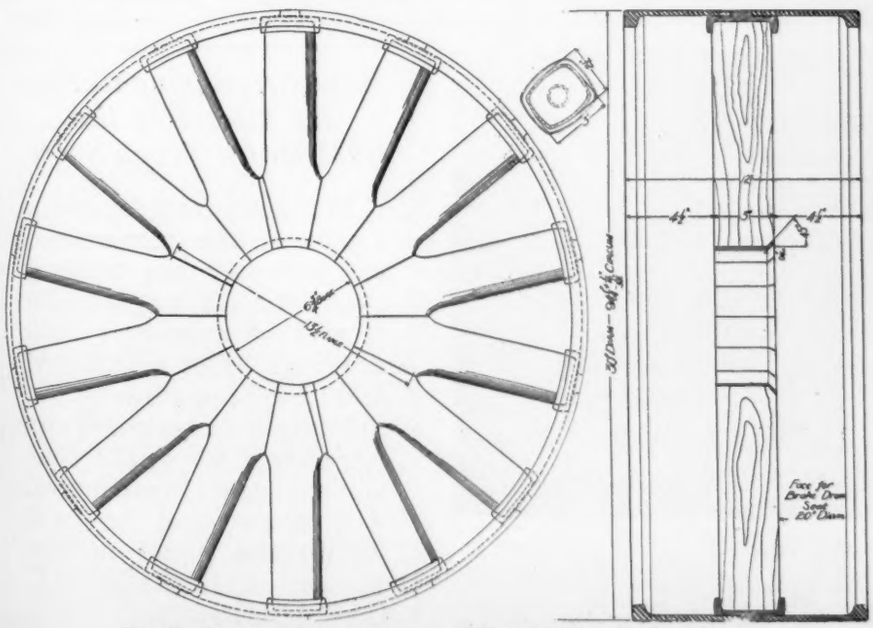
Close-Up of the Hoopes Metal Felloe Truck Wheel

The metal felloe, spoke sockets and one of the wedges are here plainly indicated. The wedges in the illustrations have been darkened by our artist to show them up prominently.



The Hoopes Metal Felloe Truck Wheel

The arrows point to the hickory wedges which are located at points diametrically opposite



Detail Sketch of the Hoopes Metal Felloe Truck Wheel

It is a well-known fact that wood will stand several times as much pressure on its end grain as it will on its side grain. In other words, the spokes will carry an excessive load on their end grain without collapsing, therefore, in this metal felloe wheel, they have spokes with full end grain bearing on metal at the rim, and a perfect seating against metal in the

hub. With this construction, as there is practically no shrinking with the end grain of wood, a wheel is produced which has done away with the weak point of all wood wheels.

The parts of these metal felloe wheels are as follows:

First, an inverted channel section. This is bent and welded with the outside dimensions conforming to SAE tolerances. The legs on the outer edge of each side of this channel form a double arch which give strength in place of the wood felloe.

Second, drop-forged sockets which enter the channel rim much as the spoke tenon enters the wood rim.

Third, a given number of spokes and two hickory wedges.

The operations for assembling these wheels are as follows:

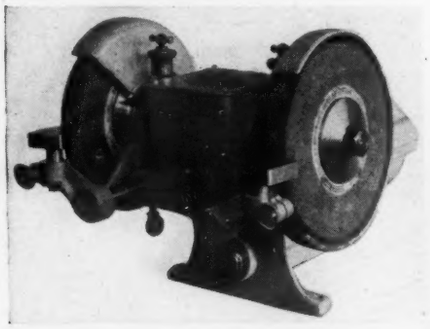
The channel rims have the necessary number of holes punched and broached in them. The spokes are painted on the ends with white lead, and forced into the sockets by hydraulic pressure. The metal felloe is heated and expanded approximately one-eighth of an inch in diameter, and then placed on the assembling table where the spokes with sockets are put in place. The wedges are then driven in to make the whole wheel tight. As the metal felloe cools it contracts, exerting a tremendous pressure on the outer ends of the spokes which not only wedges them absolutely tight in the miters, but also assures a perfect set-up at the outer end. The wheel is then ready to be bored and faced for the hub, and, after some hand finishing about the miters of the spokes, a coat of lead is applied, and it is ready for the customer.

These wheels in the heavy truck sizes are approximately 25 per cent lighter than the wood wheel. They are stronger than the wood felloe wheel, and can be produced for less money. It, therefore, seems that they should appeal to both the truck engineer and the public.

B. & D. Announce New Bench Grinder

The Black & Decker Mfg. Co., Baltimore, Md., announce a new product known as the Eight-Inch Electric Bench Grinder.

This is a two-wheel bench grinder having a ¾-hp. motor of the universal type operating on either alternating or direct current.

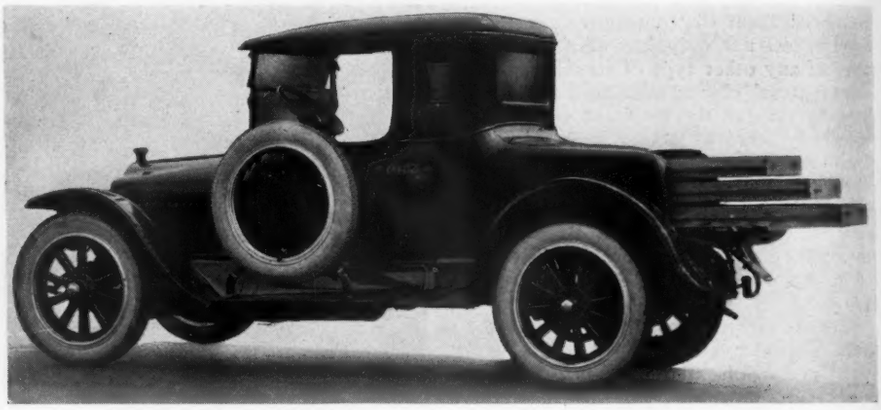


Black & Decker Two-Wheel Bench Grinder

The grinding wheels are set well forward of the motor casing and arranged so that they overhang the bench. This makes it possible to grind long pieces and odd shapes with facility and also makes it possible to avoid wastage by wearing the grinding wheels down to clamp washers.

The motor is air cooled. The cooling air intake is located 12 in. from the grinding wheels to reduce the possibility of grit being drawn into the machine. The machine is grease lubricated throughout.

A departure has been made from the customary practice of supplying the bare grinder only and this machine is shipped as a complete outfit with two grinding wheels, 8 in. diam., and ¾ in. face; one coarse and one fine—2 wheel guards—two adjustable tool rests—electric cable fitted with attachment plug and switch. The price is $120.



The New White Business Car While Having the Appearance of a Passenger Car is of Truck Construction, Combining the Rugged, Serviceable Qualities of a Truck With the Comfort and Convenience of a Touring Car

This business car is a development of the standard White taxicab chassis with seating capacity for two persons. A permanent top gives protection against inclement weather. There is ample room for baggage back of the seat, and the spacious rear compartment may be fitted to accommodate whatever business paraphernalia the user may have to carry.

Tool Box From Gas Tank

A workman in the maintenance shops of the Vesper-Buick Co., at St. Louis, has constructed an ingenious tool box from an oval gasoline tank. A picture of the box is shown herewith. After cleaning the tank thoroughly of gasoline and vapor, the workman cut off one side, as shown, with an acetylene flame. It was little work then to fit a door, with hinges and a lock, all riveted securely. Shelves of half-inch wood were then nailed in place, a handle was riveted to the top, and the job was finished. Opening from the side as this tool box does, it is a handy box to use around the shop.

Make Arrangements Now for Attending the 1922 Motor Truck Show

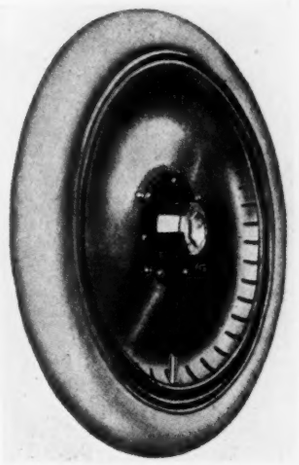
Manufacturers representative of the commercial car industry are making reservations for space. In it will be exhibited 1922 offerings. Get acquainted and keep in touch with the industry's progress. Your presence there will be convenient and inexpensive. The Show will be held within the pages of the January COMMERCIAL CAR JOURNAL.

TRUCK EQUIPMENT AND APPLIANCES

New Perfection Disk Wheel

The Perfection Motor Parts Co., with general offices at 418 Lightner Bldg., Detroit, Mich., describes its new product as a resilient, laminated steel disk, demountable wheel, with several new features. It is made up of lamination of steel disks welded together, giving strength and lightness.

The shape and "cut outs" in the outer diameter of the disk next to the rim, as shown in the illustration, allow for resilience said to be unusual in a wheel of



Laminated Steel Disk, Demountable Wheel

this type, the load being suspended as in a wire wheel. It is claimed that this resilience allows for easier riding and tire economy.

As an added feature the valve stem extends through the outside, facilitating inflation of tires. These wheels can be quickly mounted on the wood wheel hub and are demountable for quick tire changes.

The wheels come in sets of five at prices ranging from $42.50 to $62.50. Exclusive agencies are given to car dealers for their particular type of wheel, territory now being allotted for coming year.

Casey-Safety Truck Light

Among the products exhibited by the Casey-Hudson Co., Chicago, Ill., at the A. E. A. show was a special safety light designed especially for truck service and in conformity with a recently passed Massachusetts law requiring all trucks with wide bodies to display a green light on the extreme left front side of body. It is known as the Casey-Safety truck light, and its construction is described as such as to make it practically indestructible. Its two most fundamental components are a heavy iron casting and a thick green semaphore lens.

The advantage of this light lies in the fact that it will indicate accurately the maximum overhang of the body, thoroughly doing away with the uncertainty

Mounting of the Casey Safety Light

of guessing clearance as related to the position of headlights. The danger of this type of accident on dark nights is entirely removed.

This light is packed one to a carton and sells at $2.50 each.

Elite Steel Jack

The No. 9 Reliable Jack is a recent addition to the well known line of the Elite Mfg. Co., Ashland, O. Several mechanical features, the most important of which are the ease with which it is manipulated and its unusual strength, have been incorporated in the construction of this jack. The

No. 9 Reliable Pressed Steel Jack

twisted handle is finished with a flat surface on one end, while the base and sides of the jack are made of pressed steel, solidly riveted throughout.

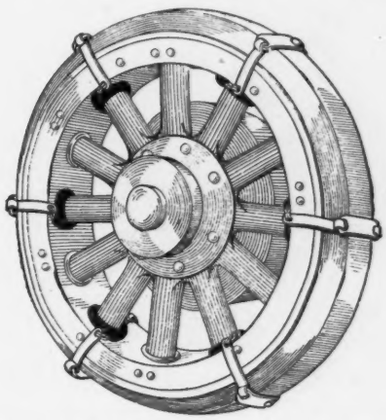
All the working parts are of malleable iron. When the load is removed the steel rack bar, with machine cut teeth is released automatically by pushing in on the spring holder located immediately below the handle socket.

Bumpless Truck Chains

Truck tire chains, claimed not to cause bumping, even on pavements, but which take strong hold on the road, are being made by the Woodworth Specialties Co., of Binghamton, N. Y.

In this chain the tread member on the middle of the tire is made of steel in the shape of a narrow "D," the round surface coming next to the rubber and the flat side next to the road.

These members are less than ½-in. thick, but are about 2-in. wide and are held in such a way that the rounded side



Showing the Bumpless Truck Chains Attached

can rock on the tire and when the wheel begins to spin the pull on the rear edge tips the tread member up far enough so it stands out from the tire and digs into the road.

Where there is no tendency to spin, the tread member lies flat on the tire and is so thin that it causes no bumping.

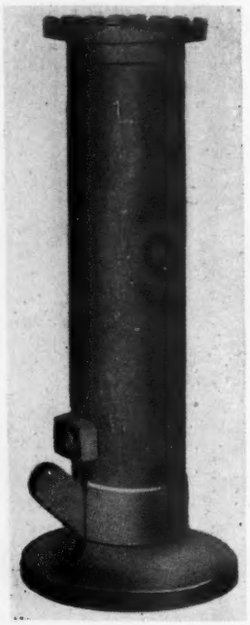
The chains are made in two types: the Easyon type which fastens to the spoke with adjustable leather-covered fasteners, and the Double-Grip type which is fastened to side chains and can creep around the tire. The Easyon type is intended to be carried always with the truck for emergencies, the Double-Grip type being more suited for steady use.

Both the Easyon and Double-Grip chains are made for all sizes of both pneumatic and solid tires.

Beacon Hydraulic Jack

The hydraulic principle of operation featured in the new jack recently announced by the Beacon Bronze Co., Beacon, N. Y., is said to greatly reduce the effort of jacking up and lowering a truck.

On the upward lift, an automatic height check prevents the operator from pumping the arm out of the pressure cylinder, while a simple turn of a release valve lowers the jack. Another feature is the air release, which is entirely enclosed, thus preventing the leakage of the liquid.



Reduction of Manual Effort in Operating is the Feature of This Hydraulic Jack.

Its capacity is 3000 lb.; weight averages 6 lb., including handle; normal height, 10 in.; height fully extended, 16 in. Sells at $10. The materials used are of high grade cold drawn steel seamless tubing. Pressure cylinder is of seamless bronze tubing.

Autoquip Fuel Fractionator

The Autoquip Fuel Fractionator for Fords offered by the Autoquip Manufacturing Co., Inc., Rochester, N. Y., among many other advantages is claimed to result in a saving of 33 1-3 per cent of gasoline if installed on the Ford engine.

This instrument breaks up or reduces unvaporized gasoline to fractions. This accomplished in two ways: first, the pressure vacuum created by spiral blades; second, these blades are continually heated by the exhaust flames to such a temperature that all globules or particles are instantly vaporized.

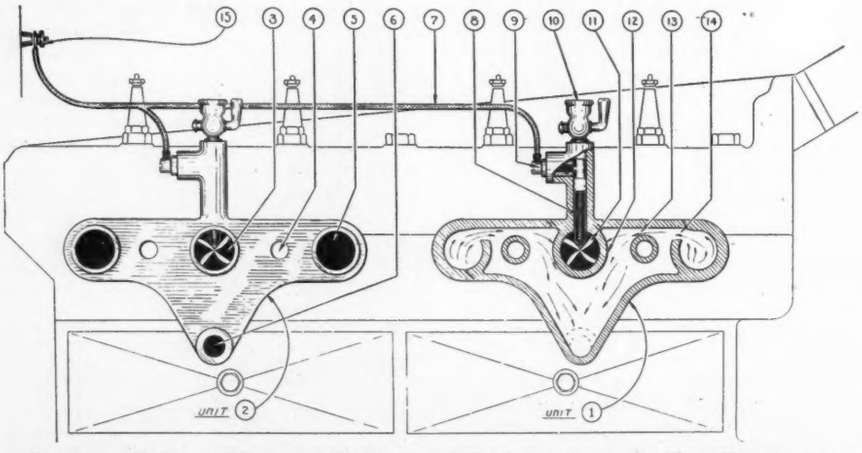
The manner and location in which these spiral blades are placed in close proximity to the intake valves, insures the exact same mixture or density of gas to each cylinder. By so doing the same pressure stroke on each piston is obtained, which greatly reduces vibration.

The fact that there are more or less heavy globules or particles bound to form on the walls of the intake manifold after leaving the carburetor was considered in the designing of the device. In order to eliminate this condition, units designated as 1 and 2, shown in the accompanying illustration, are installed, the function of which is to carry the exhaust heat ejected from the exhaust ports through the opening 14, against the walls of the intake port 12, which sustain the spiral blades 11.

In order to keep the vapor or gas from condensing or chilling in its travel through the intake manifold to the cylinders, a hollow heated unit, which telescopes and radiates heat to the intake manifold is provided. This unit vaporizes the heavy particles which accumulate on the walls.

From the walls heat is radiated on the blades. These blades create a cyclone, causing a vacuum under each one-quarter sectioned blade by the inrush of vapor, The vacuum linked with the heated effect from the blades as well as the heated walls, instantly breaks up the heavy particles of gasoline. The list price of this instrument is $12.50.

Three 5-ton trucks moved a large building from Goldfield, Nev., to Tonopah, Nev., a distance of 28 miles, with the road leading over Gold Mountain Summit, in one week. The building measured 50 feet long, 24 feet wide and 25 feet high.



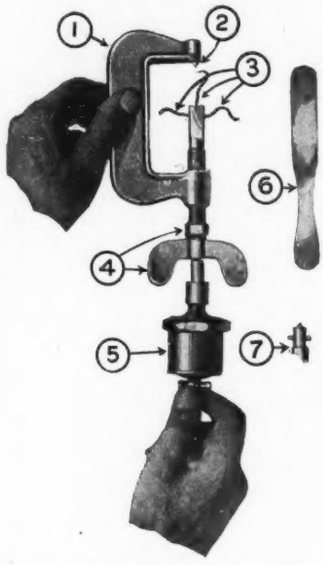
Showing Different Views of Units 1 and 2 of the Autoquip Fuel Fractionator Placed in Proper Position on a Ford Engine

3. Intake ports (two); 4. Manifold stud holes (four); 5. Exhaust ports (four); 6. Heat outlet holes from units 1 and 2 to unit 3 (two); 7. Insulated wire leading to battery plug on cowl; 8. Heating element (the coil); 9. Connection to heating element; 10. Priming cups (two); 11. Heated spiral blades (two in each intake port); 12. Aluminum walls radiating heat to spiral blades; 13. Arrow shows travel of exhaust heat; 14. Port through which exhaust is ejected into fractionator; 15. Battery terminal (Ford standard equipment).

Turner Spring Lubricator

The Lubricator offered by the Turner Mfg. Co., Kokomo, Ind., is known as the 2-in-1 because it spreads and lubricates the leaves in one operation.

The component parts referred to numerically in the illustration are as follows: No. 1, lubricator body, a drop forging that is claimed to withstand any strain and to spread any spring up to 2½ in.



Turner 2-in-1 Spring Lubricator

diameter; No. 2, guide pivot of hardened tool steel that spreads inside spring leaves; No. 3, leaf spreader and lubricating nipple of hardened tool steel, that distributes grease in three directions; No. 4, large malleable steel thumb screw, also hexagon head for wrench hold, which force spring leaves apart with little effort; No. 5, compression grease cup of large capacity that forces the grease to middle of spring leaf and shoots it in every direction; No. 6, flexible steel blade with which the lubricant is spread; No. 7, Alemite grease connection.

Grease connections to fit any greasing system, such as Alemite, Amco and others, are furnished upon request, these connections to displace this company's regularly equipped grease cup. Price $2.50.

Smith Reduces Prices

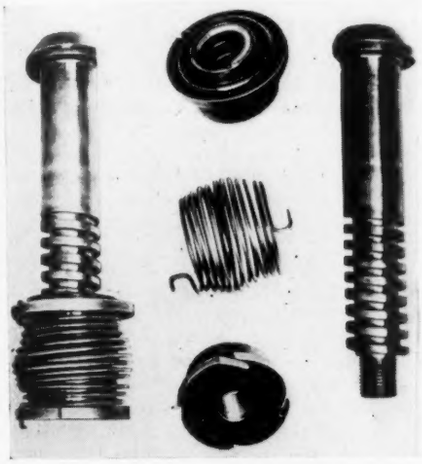
The tendency on the part of some of the parts manufacturers to co-operate with truck manufacturers in bringing the ultimate price of trucks down to a minimum is very much in evidence in the many reduction announcements of recent weeks. A notable example is the announcement by the Smith Wheel, Inc., Syracuse, N. Y., stating that its wheels for solid, cushion and pneumatic tires have been reduced 25 per cent below pre-war prices. A sheet showing actual changes resulting from this reduction dated December 1st has been published and may be obtained from the manufacturer.

V & S Self-Adjusting Connecting Rod Bolts

The V & S Automatic Bolt Company, Chicago, Ill., is manufacturing and distributing a bolt that is claimed to automatically take up wear in the connecting rod bearings, or other bearings, as fast as it occurs, permit better lubrication and reflect other economies to working parts of the engine. These bolts are supplied for practically every make of engine in existence.

The bolt is provided with an "Acme" left-hand thread for the revolving nut and a right-hand "V" thread on a smaller diameter at the end of the bolt for the spring-lock nut. The revolving nut is provided with a chamfered face on the contact side and has sufficient tolerance to offer but slight resistance in taking up wear.

The spring, which is attached to the revolving nut as the propelling force, is of the barrel type. The revolving nut cannot back up.



Four Units Make Up the V & S Self-Adjusting Connecting Rod Bolt
Figure at left shows bolt completely assembled

The spring-lock nut is provided with four adjustment slots so that any desired spring tension may be obtained, and has a right-hand thread, which, with the spring tension pulling to the right, locks it on the bolt.

The installation is made by removing the engine under-pan, exposing the connecting rod bearings and removing all caps and bolts. The shims are removed, if used; if not, a space of 1-16-in. at least must be provided between the cap and rod by filing that amount from the cap faces, in order to permit the bolt to function in its work of automatically adjusting and keeping bearings in adjustment.

The bolt holes in the cap are then reamed .005 in. larger than the bolt to be used, following which the under-face of the logs of the cap are end-milled sufficient to provide a space of 1-32 in. between the revolving nut and the spring-lock nut. This prevents interference and undue splash and also provides a smooth surface for the revolving nut of the automatic bolt.

The preparation completed, the bolts are inserted in the rod, the caps placed in position, the revolving nuts attached by finger pressure only, and the spring-lock nut is then placed on the end thread and tightened against the shoulder of the bolt by the small spanner wrench provided. The hook of the spring is then engaged in one of the four tightening or adjusting slots of the spring-lock nut by means of a small wire loop on the handle of the spanner wrench and is brought to proper tension, which is determined by the "feel" as in fitting bearings in any of the other methods. It is not necessary to burn or scrape-in the bearing, providing it has any ordinary contact with the crank pin.

New Radiator Freeze-Proof Developed

A new freeze-proof for automobile radiators has been placed on the market by the Pyrene Mfg. Co., 17 E. 49th St., New York City, well-known manufacturers of the Pyrene Fire Extinguisher.

Chromine is a patented combination of chemicals which is claimed to prevent freezing at any predetermined temperature. The compound is stated not to evaporate and tests show that it has no effect whatever on the metal and rubber in an automobile cooling system. In fact, the claim is made that it eliminates even the rust which results when plain water is used.

Miller Reese Hutchinson, Ph.D., formerly chief engineer of the Thomas A. Edison interests, inventor of the Klaxon Horn, and one of the best known engineers in the United States, is the man who was instrumental in developing Chromine and placing it in the hands of the Pyrene Manufacturing Company.

How to use Chromine: Drain off all water from the radiator. Then thoroughly dissolve the proper amount of Chromine in a pail of water (preferably warm water). Dissolve thoroughly, pour solution into the radiator, and add enough water to fill the radiator. Then run the motor a few minutes in order that the distribution of solution will be complete.

Keep the radiator full at all times—add water frequently. Always run the motor a few minutes after adding water.

It is not necessary to add more Chromine, as it does not evaporate, and one charge will remain in the radiator all season unless the radiator or pump leaks.

To prevent freezing, use Chromine as follows:

At 10 deg. above zero: 2 lb. Chromine per gallon of radiator capacity.

At 10 deg. below zero: 3 lb. Chromine per gallon of radiator capacity.

At 40 deg. below zero: 4 lb. Chromine per gallon of radiator capacity.

Chromine is packed in 4 lb., 5 lb., and 6 lb. cans.

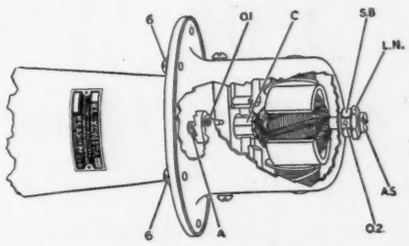
Klaxon Announces New Model

The Klaxon Company of Newark, N. J., announces that deliveries will start at once on a new Klaxon, known as the Economy Klaxon Model 12-A. This new Klaxon model has many unique features.

By means of a three-legged universal bracket the new horn can be mounted without any trouble on the dash or under the hood of practically all makes and models of motor vehicles.

The instrument is supplied in all standard voltages up to 21 volts without extra charge. It is finished in black baked enamel with an orange rim at the top of the projector.

It sells for $10 list.

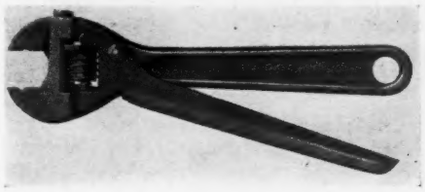


New Low Price Klaxon Horn
The designations point out the following units: O. 1—Oil Hole No. 1; C.—Commutator; S. B.—Spring Band; O. 2—Oil Hole No. 2; L. N.—Lock Nut; A. S.—Adjustment Screw; A.—Anvil; 6-6—Collar Screws.

Universal Adjustable Wrench

A wrench distinguished by its simple lever mechanism, which permits pressure to be applied to the jaws, is the latest product of the Universal Wrench Co., 3067 East Grand Boulevard, Detroit, Mich.

The lever itself is made of special steel. Through it great pressure is exerted on the movable jaw. A heavy-duty spring, specially made for the purpose, opens the jaw to the determined position when the lever is released.



Universal Lever Adjustable Wrench

It is stated that the wrench cannot slip off the nut, and that it allows the workman to work in smaller space, since the handle need not be swung from flat to flat on the nut, but only far enough for the grooved jaw to grip on the nut angle. It is built in sizes from four to eighteen inches, fully polished, head polished or nickel plated.

There are 600 motor trucking companies in Great Britain, according to the Boston News Bureau. Some carry freight for distances of 100 miles at a lower rate than the railroads.

SERVICE AND REPAIR DEPARTMENTS

For Whom Do You Work?

Extracts From a Service Talk Delivered Before the Service Managers' Meeting, National Automobile Chamber of Commerce, New York City, November, 1921

By NORVAL A. HAWKINS, Director of Sales-Advertising Service Section Advisory Staff, General Motors Corporation

I THINK we would all do well right at this time to hark back to basic fundamentals, forgetting the frills, red tape and intricacies of our Twentieth Century organizations, and ask ourselves the question, "Just whom do we really work for?"

It is not the Sales Manager nor the General Manager nor the Board of Directors nor even the stockholders. The man to whom we really owe our jobs, individually and collectively, figure it any way you like, is none other than Mr. Retail Customer—Mr. Car Owner—the ultimate consumer. It is none other than he who pays us our salaries and tells us whether we shall run full time, double time, half time or **not at all.**

Buying the Customer's Dollars

The automobile business must be reduced to sound fundamentals. We are entering into a new era. We've got to forget some of our past tactics. As our Mr. Charles Kettering recently expressed it—"the whole scheme of things has been reversed. We are out trying to buy the customer's dollars—our currency is in the form of gears, cylinders, pistons and axles—the exchange must be mutually advantageous—both sides must benefit—honesty must be the basis of all transactions. If the customer tries to pass off a counterfeit dollar on us, we refuse to take it—and by the same token, if we attempt to give him a counterfeit gear, or a defective axle, he has an equal right to become incensed."

Service is not a matter of minor concern, to be considered after the purchase of a car, as a mere incident. It is of major importance. Properly co-ordinated with selling and advertising, **the service policies of any company, when a system of service is made effective, will be the most powerful means of building up its business.**

Nothing in business is more essential than making friends. Model service will make more friends for the motor vehicle industry than can be gained in any other one way. Service cannot be good unless it is intelligently planned, systematized and everlastingly followed up. The service function must be performed dependably and uniformly, everywhere that there is a need for service. And it must be performed economically, so that the customer who is served will feel that he has been fairly treated.

Co-operation Needed

We must be unselfish about this thing. We can best help ourselves by helping one another. No one manufacturer can ever hope to have enough service stations to care for each and every one of his vehicles irrespective of where they may happen to be. The owner, at some time or another, is at the mercy of an independent garage or a dealer who has a competitive interest. It is only through a proper co-operation that we may adequately serve the owner.

The Causes of Service

There are five causes and **only** five causes of service cost to the producer, or the car owner, or both. They are as follows—

1st—Faulty engineering design.

2nd—Faulty production, including careless workmanship, and faulty material or both.

3rd—Incompetence on the part of the service repair men.

4th—Incompetence on the part of the user.

5th—The wear and tear of normal use.

The first, second and third causes for service expense are directly within the control of the manufacturer, and we as service managers should make it our business to take some interest in the fifth cause.

Service should properly begin with the design of the car—in fact it should begin with the very conception of a product and it should be projected through the engineering, manufacturing and marketing process, assuming an ever increasing importance after the product is in the hands of the user and until the time that it is ready for the discard through legitimate and honest wear—**after having given an adequate return on the customer's investment.**

If the maximum value to the user with the minimum service cost to the manufacturer is to be attained, then the future changes in our products must be in the direction of eliminating needless varieties in design and toward the selection of the best types of construction.

Elimination of Needless Variety

The elimination of needless variety is necessary to reduction of both production costs and service costs for two reasons, to wit:

1st—Quality of workmanship and material are more easily maintained as the variations in mechanical practice are decreased, and

2nd—Because incompetence of the service workman can be more effectively reduced as the variations in mechanical practice decrease.

It necessarily follows that future changes in automotive products should not only lead toward the **elimination** of needless variety, but the maintenance of the **needed** variety and the correct use of these variances with respect to more intelligent marketing policies.

First of all, in the future, no new model will ever get into production in our or-

ganization until it has been subjected to the most gruelling scientific tests that we are able to devise. I don't refer to block tests and cross country advertising tours either. I mean that a proposed model must be subjected to service, equivalent to what it would get from the most careless user during the normal life of the car, keeping an accurate "log" of wear, breakage, etc., in order that we may in our service manuals give the dealer, owner, specific, accurate and dependable information regarding the upkeep, repairs and replacements. Also, that we may give the dealer, right from the start, accurate data regarding the replacement parts that he should carry in stock.

Before any such job goes into production in any of our factories in the future, no less than five sets of tools must be designed, as follows:

1st—Jigs and fixtures for factory production.

2nd—Repair tools and fixtures for service shops at branches and large distributors.

3rd—Repair tools and fixtures for large dealers.

4th—Repair tools and fixtures for small dealers and sub-dealers.

5th—Hand tools for the owner designed especially for the particular car and adequate for such minor repairs and adjustments as may be entrusted to him.

The service man is essentially a salesman—in fact he must be a super-salesman. The new car salesman, generally speaking, sells the customer only one time. The service salesman, on the other hand, must keep the man sold by reselling him time and time again throughout the life of the car.

And remember this—the customer is invariably in the best of spirits when he negotiates with the new car salesman, but his transactions with the service salesman are usually under the most exasperating conditions.

Sales and Service Activities Must be More Closely Knitted

The success of a company is primarily dependent upon the adequacy of its sales and service.

The salesman must work in closer cooperation with the service department. When the owner has trouble he calls on the service man to remedy it—**not the salesman.** Therefore, the service department should have something to say regarding the claims and promises of the ultra-enthusiastic salesman.

When a salesman resorts to untruths or to promises which he knows cannot be fulfilled it is an admission that he is lacking in real sales ability.

The far sighted salesman will make it a point to call on his customers from time to time—he will help the service man to keep these customers sold and he will be amply rewarded for the time and effort involved.

If the retail service station has been inefficient, it is we who are to blame. There is a total of 45,135 automobile repair shops in the United States.* It stands to reason that the individuals operating these repair shops do not have the same opportunities to develop proper methods of servicing our products as do we with our elaborate organizations and service specialists.

We must begin to take greater advantage of our facilities and give our dealers the advantage of our best experience.

Let us remember that while these service and repair stations are for the most part operated by individuals not directly on our factory payrolls, they nevertheless work for the same boss that we do, namely—Mr. Car Owner. These independent garages and service shops are not independent after all—they are absolutely dependent upon our product and upon the good will of the public. Many of them are our own dealers operating under contracts which carry mutual advantages.

Three Kinds of Service

Service, in terms of our industry, divides itself into three classifications:

1—Parts manufacture and distribution.
2—Mechanical repair work.
3—Moral or Psychological Service.

In all three classifications, we need greater efficiency. And when I say efficiency, I don't mean "red tape" and system for the sake of system. When you come right down to brass tacks, there is only one definition of this word "efficiency" and it may be expressed in these two words **"Responsibility Met."** We who have to do with service, must meet our responsibility by seeing to it that our dealers carry adequate parts to serve our customers. We must develop scientific methods for anticipating repair parts requirements—both between the dealer and the Factory Service Department and between the Factory Service Department and the Production Department.

Before we can get our dealers to follow our methods, we've got to actually show these dealers how they can make a profit.

The reason that many dealers have failed to make a profit on their parts business is because we fellows back at the factories have **guessed** at what they needed rather than making it our business to **know** what they were going to require. The result has been reflected in great volumes of telegraphic orders, express shipments and unnecessary expense to the car owner.

Within our own organization we found through a careful analysis that from twenty to thirty-five per cent of all repair parts orders during the first six months of 1921, were telegraphic and that almost 50 per cent of our parts shipments were going forward by express or parcel post as rush orders with a consequent high percentage of errors.

Efficiency is responsibility met. We have not met our service responsibility until we place repair parts within immediate reach of our car owners even in the most remote sections of this country.

Keeping Parts in a Usable Condition

Nor is it sufficient that we merely get them there, we must get them there in a usable condition and see to it that the dealer keeps them in a usable condition.

Before we can instruct the dealer on this, we must begin practicing it ourselves. I was in one of our largest factory service departments not long ago and the gaskets for the cylinder heads and crankcases looked as though they had been put into the bins with either a pitch fork or an air conveyor. I was in another plant where we found that the connecting rods after having been aligned and inspected were thrown in a big box with several thousand others, with the natural result that the rods in the bottom of the box were bent out of shape.

In still another factory, delicate electrical parts were being handled and stored as though they were made of pig iron.

Safeguarding the quality and condition of repair parts is of vital importance to our industry. Unnecessary handling is both wasteful and expensive.

Anticipating Repair Parts Requirements

Scientific anticipation of repair parts requirements and the distribution of parts on a wholesale basis are necessarily the forerunners of an efficient unit package system and we've all got to come to it.

We have no right to penalize our customers for our own inefficiencies incident to the repeated physical handling of our repair parts.

Although the war is over and the price of materials and labor have settled down to a more or less stable level, we are still asking the owner to pay us exorbitant prices for parts necessary to the maintenance of his car.

Why should it be necessary to get twice as much for a disassembled car as you get for an assembled car? The complete car has a great deal more mechanical labor chargeable to it. There is always an unavoidable breakage of material incidental to the assembly process. It is supposed to require a more expensive type of salesman to sell a finished car and it is usually necessary to demonstrate it before consummating a sale.

The only arguments on the other side of the question are that the repair parts business involves an overwhelming number of detail transactions and that the turnover is extremely slow. I have already answered these objections. **The remedy lies in the direction of scientific anticipation of repair stock requirements** and in reducing the factory repair parts department to a wholesale basis of operation.

Repair Parts Prices

If the organization for whom you work is going to change designs every six months and if you are compelled to carry 25 to 30 thousand different items on your inventory, you are laboring under a serious handicap for which you are not responsible **except** that you should take a more positive interest in the determination of those policies which will seriously affect the profits of your department and prevent maximum returns in the form of good will accruing from an efficient service.

And again most of us are still adhering to the unbusinesslike war time practice of omitting our repair parts prices from our parts catalog.

*The CHILTON TRADE LIST of September, 1921, shows 53,830 repair shops in this country.

The present day dealer, in striking contrast—submerged in a multiplicity of models conspicuously free from any and all interchangeability of parts—is in the predicament of having entirely too many parts catalogs. He finds it necessary to refer to a veritable "5-foot shelf" of voluminous literature to ferret out the various serial numbers, parts numbers, pattern numbers, model numbers, car numbers, motor numbers, code designations, historical data references, alphabetical prefixes, differential discounts and war tax schedules, before he becomes a party to the secret of just how much **too much** he is going to pay for the blame thing!

And even this isn't the worst of it for the dealer immediately goes us one better and begins to tack on extra charges covering freight, express, telegrams, handling, overhead **and wear and tear on his nervous system.**

Service Department Should be Operated for a Profit

There are two kinds of profits accruing from service: 1st, the direct dollars and cents profit as it appears on the balance sheet; 2nd, the indirect and intangible profit accruing from the good will of a customer properly served, which is in turn reflected in the sale of new cars.

It is my contention that these two profits are entirely compatible in any manufacturing institution which has an economic reason for its existence.

A Business Fundamental

It is not surprising that many of you have been unable to show a dollars and cents profit. The Service Department has always been looked upon as the goat of the whole industry.

I realize what some of you have been up against.

Take this matter of parts being replaced under your Guarantee and Policy accounts. I wonder how closely you follow your replacements and complaints.

Do you issue regular reports covering such items in order that your organization may get a true reflection as to the quality of the product? Do you know how much such replacements are costing you per automobile?

What is being done about it? Is the cost decreasing or increasing? What department is being charged with these costs?

Unless you are thinking in terms of profits and disseminating data of this kind among the proper departments of your organization, you have not met your responsibility—you are not doing your duty as Service Managers.

Such replacement reports coupled with summarized complaint correspondence should serve as a barometer on the quality of your product at all times and in the absence of such reports you are paving the way for a condition whereby the purchasing agent or the engineer might persist in practicing a false economy that might save the company 5c on the price of a car and cost $5 a car for gratis replacements, not to mention labor costs and inconvenience to the owner.

If the production has too much material of a certain kind, they try to pass the buck by turning it over to you service men, whether you need it or not. Let me say right here, that if you thought more about profits and turnovers you would not stand for this sort of thing three seconds. If you **do** let the production manager slip it over on you, it's really your own fault—as a matter of fact you are **his customer** and if you were functioning properly you'd be telling him how much stuff you wanted, when you wanted it and how much it ought to cost. You would refuse to act as a dumping ground for surplus and inferior material and you would insist on an accounting system that would properly distribute expenses which your department incurs as a result of unsound engineering, careless manufacturing, inadequate inspection or a liberal replacement policy on the part of the Sales Department.

And then again, when material is scarce and the new car market is on the boom, the whole process is reversed and you are expected to render service on air while the new car production has the right of way.

Keeping the Old Cars Running is More Important Than Building New Cars

We have just inaugurated a policy within General Motors, handed down from the President through the Executive Committee, that provides for service parts requirements being given precedence over production requirements, first, last and always—irrespective of the new car orders on file—and without consideration for any temporary financial loss.

We have arrived at the very sound conclusion that keeping the old cars running is of far greater and more lasting importance than the matter of getting the new cars sold.

As applied specifically to the motor vehicle industry, service may be defined as **a summation of those constructive efforts on the part of the manufacturer and the dealer that enable the owner to get the maximum return from his investment.**

Mechanical Service

Efficient mechanical service on the part of the dealer is of prime importance. It is not enough that he be able to just "fix" a car so that it will run—he should possess the knowledge and facilities for turning out the work that would pass the most rigid factory inspection. He should have equipment proportionate to his service requirements. He should have special tools for those operations peculiar to the particular car that he represents, unless he is a very small dealer, in which case he should have a working arrangement with his distributor on overhaul jobs which he is not prepared to handle.

Here again the responsibility rests with the manufacturer.

It is the business of the factory service manager to develop or to **have** developed special tools and service fixtures for the use of the dealer and distributor and to see to it that such equipment is properly used.

The Flat Rate System

It is my prediction that within three years every reputable repair shop in America will be operating on some form of flat rate system. Whether we like it or not, we've got to come to it and when we **do** come to it we'll be surprised at just how low our past efficiency has been.

In addition to the tangible repair parts distribution and mechanical phases of our service activity, there is the intangible moral phase.

Any man who does not see beyond the mechanical side of a motor car does not belong in a garage or service station. He is of the age when automobiles were merely machines to get about in.

The most adequate parts stock and the very best mechanical equipment is of no avail if the policy is wrong and the methods unbusinesslike.

Sales psychology must be projected into service. We have no right to make a man wait two hours for his bill after his car is ready for delivery. And when he pays this bill the man who takes the money should have enough sales sense to say "thank you."

Even if the remittance is by mail the bill is not properly receipted until the words "thank you" are written across its face in long hand.

When winter approaches, it is the dealer's duty to warn his owners and offer his services in the matter of putting anti-freeze solution in their radiators and light oil in their motors, etc. And in the spring it is his business to look after changing back for warm weather operation.

These things are details but they are of vital importance nevertheless.

Moral or Psychological Service

To be successful, a service station must be conducted with a proper observance of the fundamental rules of psychology, common sense and decent business practices.

A strict observance of office hours should be taboo in any automobile repair shop. The biggest volume of sales on minor repair parts and accessories are made and the greatest good will is built between 5.00 P. M. and 9.00 A. M. and during the noon hour and on holidays.

The Service Manager should spend more time out in the territory studying the problems of the dealers and assisting them in the development of more efficient and uniform methods.

Service is being weighed in the balance and it is found wanting. Haphazard methods cannot survive. Service will be reduced to a uniform science. We must teach the dealer how to conduct his service at a profit and at the same time reduce the costs to the car owner.

After we have developed the proper methods, it will then be our business to check up our dealers in order that the good will of the car owner and hence the future profits of the industry may be insured.

Checking Up the Factory Service Department

I would also suggest that you check up the service department of your own immediate organizations and when I say Service Departments, I mean far more than the routine activity between the four walls enclosing the employes for whom you are directly responsible.

We have been conducting an investigation of the service departments of all

General Motors Passenger Car Divisions in collaboration with our respective service managers.

I'll read you just a few of the items that we are covering:

1st. Service Problems peculiar to product. Age of Company, number of models built to date, quantity of product in the field, number of items on repair parts inventory, value of repair parts inventory, volume of repair parts sales, volume of repair parts replacements, service cost expressed as a percentage of net car sales; number of branches, distributors and dealers.

2nd. Physical layout of stock bins, packing and shipping facilities.

3rd. Methods of estimating repair parts requirements.

4th. Cost of operating service department.

5th. Basis of pricing repair parts.

6th. Structure of Service Department and its relation to other Departments.

7th. Methods of handling production orders for repair parts stock.

8th. Co-operation rendered to other departments by Service Department, particularly in connection with the dissemination of data on complaints, replacements, etc., reflecting on the quality of the product and hence serving as a guide to engineering and manufacturing departments.

9th. Methods of handling repair parts orders from customers, dealers, distributors and branches.

10th. Educational activity for the production of more intelligent service on part of dealer, and a more intelligent operation on part of owner.

11th. Methods employed for getting distributors and dealers to carry adequate stocks.

12th. Expediency with which orders are filled.

13th. Accounting systems employed.

14th. Financial status of Service Department.

15th. Methods of handling parts returned for replacement.

These are only a few of the things that we consider pertinent to a service analysis. The questionnaire that we are using covers a total of 192 items.

Future Business Depends on Service

As a product attains a wide distribution the prospective purchaser becomes more or less immune to our advertising and sales activity and more and more under the influence of his friends who have had experience with the product in question. Whether the product receives an endorsement or condemnation depends largely upon the efficiency of the service that has been and is being rendered.

Efficient service will eliminate the saturation point—it will remedy the pirate parts evil, and it will do more than anything else toward stimulating the used car market.

Efficient service is the most effective insurance to take out on the future prosperity of the automotive manufacturer.

We must sell service first and motor vehicles second. No matter how perfect the design and workmanship of so intricate a product as a motor vehicle, it cannot and will not stand up and give a satisfactory account of itself unless it is kept in first-class condition through systematic inspection, adjustment and parts replacements. And by the same token, even a second rate vehicle can be kept going beyond its normal life if it is properly serviced.

In the future automobiles and the service that must inevitably follow will have to be sold and sold hard—our most valuable allies are the 9,000,000 car owners whose continued good-will rests largely in the hands of you service men.

The word "service" represents the wisdom of centuries.

The idea of service, in its broad sense, is as old as civilization itself. It has been taught by the great teachers of all times—by wise men of all ages—by the real benefactors of mankind.

It is up to us to crystallize this idea—to interpret it in terms of our own business.

It is to you men whom we must look for the greatest future development of the automotive industry as a whole—and remember that **"He profits most who serves best."**

New Garbage Equipment Built by Autocar

The heavy Autocar garbage equipment recently designed at the Autocar factory, Ardmore, Pa., to meet the requirements of the District of Columbia engineers has established a record during its short period of operation for economy in performance, and convenience and sanitation of body.

The body is made entirely of steel and is water-tight. It is fitted with sectional hinged lids which are close fitting and which make it unnecessary to expose more than a small space when adding to the load.

By reason of running-boards fitted to the sides an operator can readily load from the top. These running-boards are arranged to fold up against the sides of the body when not in use. The body has a capacity of 200 cu. ft., or 5 tons, and the inside dimensions are as follows: 138 in. long, 78 in. wide, 24 in. high at the sides, 16½ in. from the top of the sides to the peak of the triangle.

This equipment in the ordinary use of the Washington, D. C. municipality carries three men in addition to the driver, and they fill it to capacity several times each day. It operates principally around the market and in the rear of big hotels, boarding houses and other places from which large amounts of garbage must be removed daily.

G. M. C. Building Ready by June

Orders have been given to rush the General Motors Building in Detroit to completion. Work is to start in the west wing and all other uncompleted parts of the structure by January 1, 1922. Officials of the Corporation have set June 1 as the date for occupancy.

The building is to accommodate 6000 people and is to have every conceivable convenience and improvement.

Left: Sectional Lids Raised, Exposing Only a Small Space as Needed. Folding Running-Board Dropped When Loading. Right: Dumping Angle Showing How Entire Load is Quickly Discharged

Service Station and Repair Shop Appliances

American Broach Press

The outfit illustrated herewith, and manufactured by the American Broach & Machine Co., Ann Arbor, Mich., is designed primarily for broaching wrist pin holes in pistons. It is claimed to be a simple matter to broach accurate wrist pin holes

American Broach Press

in pistons for receiving oversize piston pins with this equipment, as it includes a press and three broaches for the oversize wrist pins to suit any make of truck or car. As the illustration discloses, the piston is held in a fixture, the base of which is turned to a proper diameter to suit the hole in the table of the press. When the broach, piston and fixture are in place everything is square, central and at right angles, thus obtaining a perfectly smooth and straight hole.

The entire operation, it is said, requires about one minute. The press has a 14¾-in. stroke.

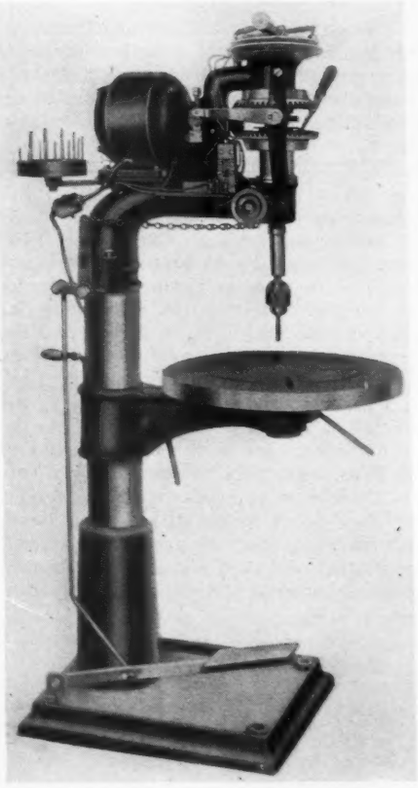
Electro-Magnetic Tapping Machine

In announcing the new Automatic Electric Magnetic Tapping Machine, the maker, the W. Gaterman Mfg. Co., Manitowoc, Wis., states that its use eliminates the usual tapping troubles and breakage. As the working strain upon the tap is weighed to a fraction of an ounce at all times by an adjustable spring balance drive on the tap, the machine is far more sensitive in the performing of work than would be possible if hand tapped. Its use is claimed to reduce tapping costs. This machine will tap over 1000 blind holes per hour in steel with a 3-16 in. bottoming tap, ½ in. deep, full thread.

The makers point out that it is not operated on a hit or miss plan but is electro magnetically controlled. The machine is simple, well built and equipped with large journals and ball thrust bearings throughout.

To operate, the tap is first inserted in the chuck. The dial is then set to correspond with the size and strain on the tap to be used. When the machine is started, bring the tap down to the work with either the hand or foot control.

Should the tap hit bottom, or otherwise strike a tight hole or obstruction which places more strain on the tap than at which the dial is set, the machine will automatically stop the forward rotation of the tap, reverse same 1-6 of a turn, freeing tap and then start forward again. This



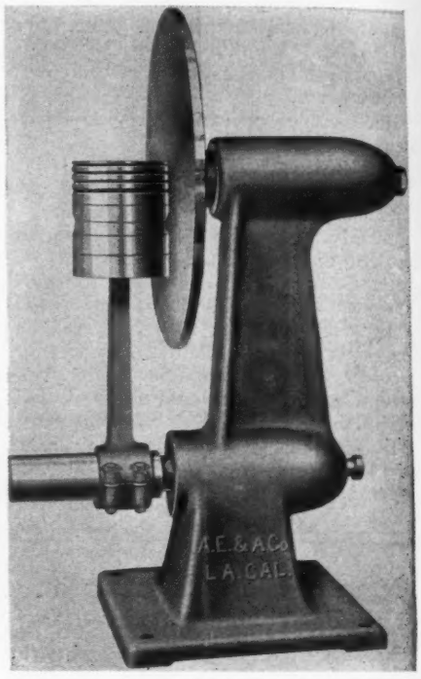
Electro-Magnetic Tapping Machine
Note the automatic electric control which prevents top breakage

is done at a speed of from 300 to 2000 r.p.m., according to the size of the tap. This oscillation does not take place if the strain on the tap does not require it.

Other features and points of interest are as follows: This machine can be adjusted so that the tap will run to a certain depth and then automatically return. These machines are furnished in either belt or motor drive and can be changed into a drill press in a moment's time.

American Piston Square

The disk and mandrel of the American Piston Square produced by the American Engine & Airplane Co., Los Angeles, Calif., are perfectly square with each other, and the skirt of the piston, if square, will be parallel with the face of the disk



American Piston Square

when a test is made. Should the piston under test prove to be out of square or the rod twisted, the error may be rectified by twisting or bending the connecting rod with a wrench or some other suitable tool without removing from the jig.

Each size connecting rod takes a separate mandrel on both No. 1 and No. 2 squares, the former being designed for small garage trade, where the work is light, and the latter, the company's latest designed square, of more substantial construction, being constructed for more arduous service.

No. 1, complete with one mandrel up to 2 in., boxed, sells at $50. No. 2, complete with one mandrel up to 2 in., boxed, $80.

The Universal Inner Tube Vulcanizer

The Chas. E. Miller Anderson Rubber Works, Meridian, 14th & Main Sts., Anderson, Ind., describes its tube vulcanizer as an outfit that is always ready for quick, efficient and inexpensive service. The steam used in this outfit is generated by gasoline, gas or electricity.

The Miller-Anderson Universal Inner Tube Vulcanizer, as it is known to the trade, has a machined surface 4 x 13 in., and is particularly adapted for making quick repairs.

Right: Dumping Angle Showing How Entire Load is Quickly Discharged

Universal Inner Tube Vulcanizer

No. 613 model is furnished complete as illustrated, having a gas burner with an automatic regulator. Price, $30.

No. 614 is furnished complete as illustrated, except that it has an electric burner with automatic control. Price, $40.

No. 615 is furnished complete as illustrated except that it is designed to use a common gasoline blow torch for heat (furnished at extra cost). Price, $28. Approximate shipping weight of any one, 50 lb.

Harkins-Boston Tube Vulcanizer

The T. L. Harkins Machine Co., 44 Union Square, Allston District, Boston, Mass., is offering a little machine which, because of its construction, is intended to handle a large amount of work and to operate economically.

Pressure is obtained by a specially designed quick-action hold down; a spin of the hand wheel brings the clamp down, and any desired amount of pressure may be obtained by simply screwing up the hand wheel. The hold-down screw is fitted with a flexible seat which insures a steady even pressure while the repair is curing.

This vulcanizing machine has a self-contained boiler and is fitted with an improved end plate for making repairs around the valve stem. Extra heavy semi-steel is used throughout its construction, the tube plate is of liberal size, 26 in., and is given a highly machined and polished finish.

The burner is the company's regular Economy type, with improved mixer head. Steam gage, safety valve, filler valves, overflow and drip cocks are supplied with each machine as regular equipment.

Harkins-Boston Improved Tube Vulcanizer

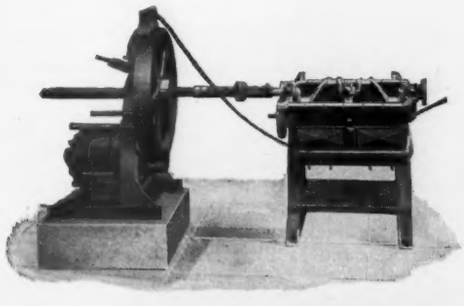
"Eco" Burning-in and Running-in Equipment

The equipment illustrated herewith comprises the burning-in attachment used on the "Eco" Universal Motor Handling Machine and the "Eco" Engine Stand. It is made by the Western Mfg. Co., Oskaloosa, Iowa.

This equipment is said to be ideal for burning-in and running-in Ford engines as well as all other makes of engines, provided there is a bench or stand sufficient to hold the engine block. This equipment can also be used for cranking stiff cars.

The engine stand is made of gray iron, strong and substantially constructed for durability and service. The burning-in attachment is made of tool steel, fitted with universal joint, 3 phase A. C. motor, back-geared 9:1 ratio, giving 27 hp. torque or pull on line shaft less the friction. Complete as illustrated, f. o. b. factory, $300.

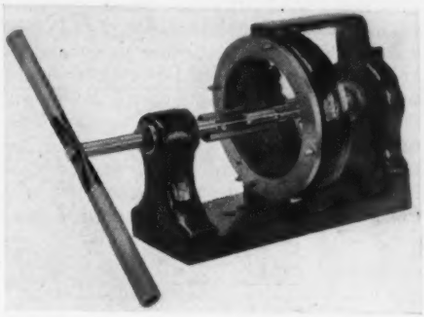
With single phase motor, $75 additional. With 25 cycle A. C. or 110 volt or 220 volt D. C., $65 additional.



"Eco" Burning-in and Running-in Equipment

Transmission Bushings Reaming Outfit

The Keystone Reamer & Tool Co., 180 N. Market St., Chicago, Ill., announces that its Transmission Bushings Reaming outfit can be used on work in connection with all of the transmission bushings in all Ford products.



Keystone Transmission Bushings Reaming Outfit for Ford Car

This outfit consists of a special fixture or jig for holding and centering the transmission drums and triple gears, and a complete set of Special Keystone Reamers for reaming all transmission bushings, including Nos. 3304, 3309, 3314½, 3320BC and 3327B of the Ford car and Fordson tractor.

The fixture or jig is a gray iron casting, upon which is mounted the base with pilot bushings and spring collets, holding ring with tightening ring, and split-beveled wedge centering rings and plate.

These components are specially designed to enable the mechanic to execute with accuracy and ease the work of reaming Ford transmission bushings.

H-B Sectional Vulcanizer

The Harkins-Boston, Model A, three-cavity, sectional vulcanizer accommodates all sizes of tires from 3 to 5½ in. It is manufactured by the T. L. Harkins Machine Co., 44 Union Square, Allston District, Boston, Mass.

Pressure is obtained by an improved clamp with a quick-acting screw, designed to give the desired amount of pressure evenly on both beads. The outside of

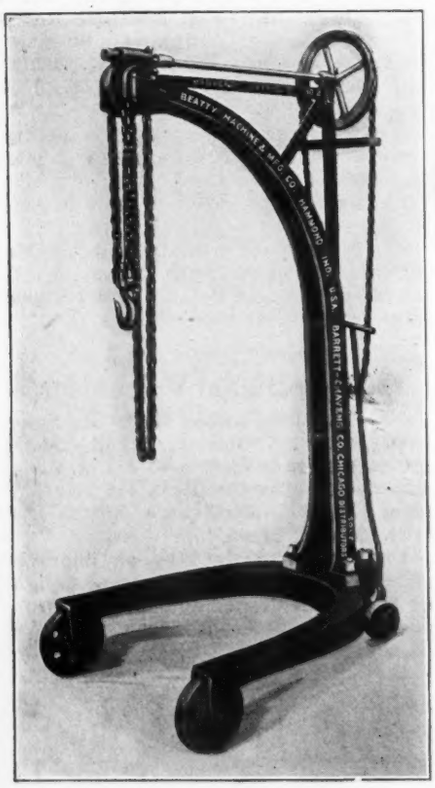
Harkins-Boston Model A Three-Cavity Sectional Vulcanizer

the bead molds is machined to fit the cavity, so that the heat is transmitted evenly through the bead mold, thus assuring a perfect cure, while the inside is machined to fit exactly all standard sizes of tire beads.

A complete set of straight side and clincher bead molds, three pressure clamps and wrench, steam gage, safety valve, filler valve, overflow valve and air relief cocks are supplied as regular equipment. It has a self-contained boiler and is fitted with the company's regular Economy type burner, with improved mixer head, by use of which fuel consumption is stated to be cut to a minimum. It is of extra-heavy semi-steel construction, and declared to be perfectly safe.

Hammond Portable Crane

The Barrett-Cravens Co., Chicago, Ill., is offering a crane featured by a worm and screw hoist, which automatically locks at all points of travel. It is known as the Hammond "Never Slip" crane.



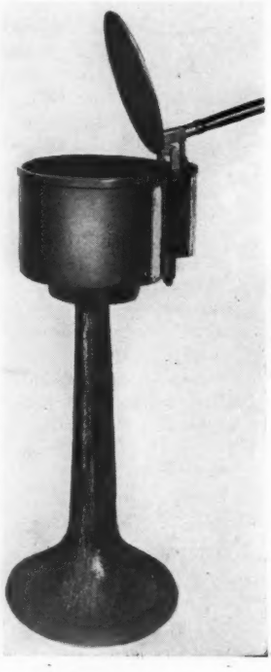
Hammond "Never Slip" Portable Crane

Other noteworthy points in its construction are the sturdy bronze hoisting gear, which is of the worm-gear type and encased in an oil-tight cast housing to permit proper lubrication; steel hoist having a sprocket designed with a wide factor of safety over a guaranteed capacity; electro welded chain; chrome nickel steel heat-treated hoisting axle equipped with Hyatt roller bearings, which are also used in all wheels; all steel crane, base and column.

This crane is made in sizes with lifting capacities of from 1 to 3½ tons.

Safety Cleaning Machine

The Black & Decker Mfg. Co., Baltimore, Md., announces among other articles the Black & Decker Safety Cleaning Machine, which consists of a cast iron pedestal with a bowl at the top, 13 in. in diam. and about 12 in. deep. About 5 in. from the bottom of the bowl a fine mesh brass screen is supported. A plunger pump is cast integral with the bowl at one side.



Black & Decker Cleaning Outfit
It consists of a cast iron pedestal with a 13-in. bowl with safety lid.

The bowl is provided with a safety cover, arranged so that it cannot be left open. This cover is controlled by a convenient handle which operates the plunger pump when the cover is lifted.

A gallon of gasoline or kerosene is poured into the bowl of the machine and the operation of the plunger pump forces a stream of the fluid from one side into the center of the bowl. It passes through the screen and returns to the sump so that the liquid is used over and over again.

It is merely necessary to hold the part to be cleaned under the stream of cleaning liquid which washes dirt, chips and foreign matter from part to be cleaned and deposits it on screen below. Price $56.

Kennedy All-Steel Kit

One of the various types of all-steel kits manufactured by the Kennedy Mfg. Co., Van Wert, Ohio, that is well suited for the mechanic to carry his tools in, is the combination case illustrated, as it combines lightness of weight with strength and durability.

It is equipped with two trays, the upper one being three inches deep and having a handle that turns down into the tray, so that the tray may be removed from the case and easily carried about with just the tools required for immediate use.

It is made of 26 gage steel, electric welded throughout, and reinforced at all points of strain to make it capable of withstanding hard usage. It is formed from the metal—not stamped, and its water and fire-resisting features

Kennedy Combination Case

are among its good points. The heavy corner irons and side catches are of brass, and the handle is of genuine leather with steel cores.

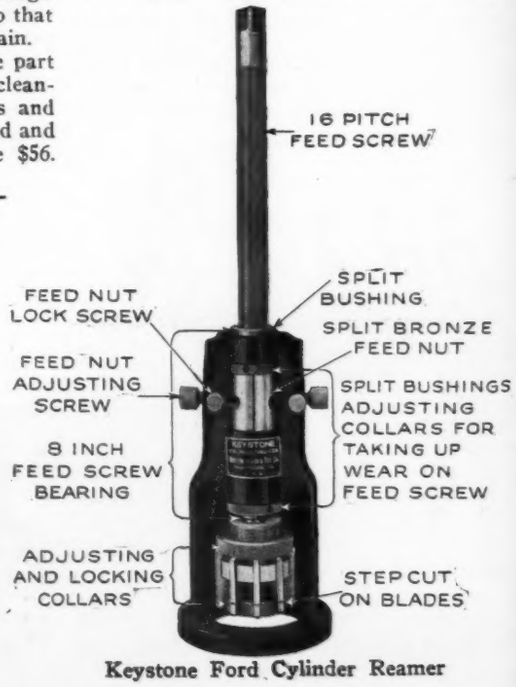
A strong Corbin multiple-change lock is used. Finished in brown baked enamel, which, it is claimed, will not rub, chip or scratch off. Size 16 x 7 x 9. Price, $7.

Keystone Cylinder Reamer

To assist the mechanic in turning out fine and smooth jobs in cylinder reaming work, the Keystone Reamer & Tool Co., 180 N. Market St., Chicago, Ill., has developed the Keystone Cylinder Reamer, a tool of the most approved type, being simply and sturdily constructed.

This tool is stated to contain no working parts that will frequently get out of order, and provision is made to operate it by power as well as by hand, a feature that widens the scope of its utility. A drill-press connection is furnished as part of the regular equipment.

The outfit consists of the reamer and fixture complete, 1 latest type 18-in. Mossberg ratchet wrench, 2 Spanish wrenches, 1 straight steel wrench, 1 drill-press connection, 2 cast-iron clamps. Sizes, 10 x 12 x 28 in. Weight, 75 lb. Price, $125.



Keystone Ford Cylinder Reamer

Replacement Table—Corrected Monthly

Including Piston Ring Sizes, Carburetor Sizes, Hose Sizes, Fan Belt Sizes, Brake Lining Sizes and Truck Frame Dimensions

Note: Under Carburetor Inlet Diameter Will be Found Either the Size of Main Air Intake or the Gasoline Fuel Line

Fan Belt Type: V—V-Shape, F—Flat, R—Round

Name, Model and Tonnage	ENGINE											BRAKE LINING								FRAME	
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length	Width
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Over All
Acason R-1—1920	4	1/4	1	....	....	....	....	....	....	....	....	....	11 1/2	3	1/4	2	11 1/2	3	1/4	2	112	34
Acason RB-1 1/2—1920	4	1/4	1	....	....	....	....	....	....	....	....	....	11 1/2	3 1/2	1/4	2	11 1/2	3 1/2	1/4	2	112	34
Acason H-2 1/2—1920	3	1/4	1 1/8	....	....	....	....	....	....	....	....	....	13 1/2	3 1/2	1/4	2	13 1/2	3 1/2	1/4	2	130	35
Acason L-3 1/2—1920	3	1/4	1 1/4	....	....	....	....	....	....	....	....	....	16	3 3/4	1/4	2	16	3 3/4	1/4	2	163 1/4	35
Acason M-5—1920	3	1/4	1 1/2	....	....	....	....	....	....	....	....	....	18	4 1/2	1/4	2	18	4 1/2	1/4	2	167 1/2	35
Ace, Series A 1 1/2—1920	3	1/4	1 1/4	1 1/4	H	10 3/4	2 1/4	6 1/2	2	37 1/2	1	F	12	3 1/4	1/4	4	12	3 1/4	1/4	4	122 1/2	32
Ace, Series A2 1/2—1919-20	4	1/4	1 1/4	1 1/4	V	10 3/4	2 1/4	5 1/2	1 1/4	33	1 1/4	F	13	3 1/4	1/4	4	13	3 1/4	1/4	4	144 1/2	32
Acme G-3/4	3	1/4	1	1	V	11	2	11	2	38 3/4	3/4	V	10 1/2	2 1/2	1/4	4	10 1/2	2 1/2	1/4	4	110 3/4	34
Acme B-1—1916-20	3	1/4	1	1	H	11	2	11	2	38 3/4	3/4	V	12	3 1/4	1/4	4	12	3 1/4	1/4	4	110 3/4	34
Acme F-1 1/2—1919-20	4	1/4	1	1	H	8	1 1/2	11 1/2	1 1/2	40	1 1/4	F	12	3 1/4	1/4	4	12	3 1/4	1/4	4	123 3/4	34
Acme A-2 1/4—1916-20	4	1/4	1 1/4	1 1/4	H	7	1 1/2	11	1 1/2	33 3/4	3/4	V	13	3 1/2	1/4	4	13	3 1/2	1/4	4	135	34
Acme AC-2 1/2—1921	4	1/4	1 1/4	1 1/4	H	10	1 1/2	13	1 1/2	33 1/2	1 1/4	F	13	3 1/2	1/4	4	13	3 1/2	1/4	4	140 1/2	34
Acme C-3 1/2—1917-20	4	1/4	1 1/4	1 1/4	H	11 1/2	1 1/2	13	1 1/2	33 1/2	1 1/4	F	15 1/2	3 3/4	1/4	4	15 1/2	3 3/4	1/4	4	150 3/4	36
Acme E-5—1919-20	3	1/4	1 1/2	1 1/2	H	11	2	11 1/2	2	40 1/2	2	F	18	4	1/4	4	18	4	1/4	4	159 3/4	37
Akron Multi-Truck 20-1 1/4	3	1/4	1 1/4	1 1/4	V	9	1 1/4	7 1/4	1 1/4	36 1/2	2	F	19 3/8	1 3/4	1/4	4	19 3/8	1 3/4	1/4	4	102	34
American 25-2 1/2	4	1/4	1/4	1 1/4	V	19	1 3/4	17	1 1/2	38	2	F	19	2 1/4	1/4	4	19	2 1/4	1/4	4	142	33
American 40-4	4	1/4	1/4	1 1/4	V	19	1 3/4	9 1/2	1 3/4	38	2	F	57	2 1/2	1/4	2	41 1/2	2 1/2	1/4	2	142	37
American 50-5	4	1/4	1/4	1 1/4	V	19	1 3/4	9 1/2	1 3/4	38	2	F	....	....	....	....	....	....	....	....	158	37
Apex C-1	3	1/4	1	1	V	7 1/4	2	12	2	36 1/2	7/8	....	42	2	....	2	41 1/2	2	....	2	102	35 1/2
Apex D-1 1/2	3	1/4	1	1	V	7 3/4	2	12	2	36 1/2	7/8	....	42	2	....	2	41 1/2	2	....	2	102	35 1/2
Apex E-2 1/2	4	1/4	1	1 1/4	V	7 1/2	1 1/4	8	2	32	1	....	54	2 1/4	....	2	53 1/4	2	....	2	128	31 1/2
Apex G	3	1/4	1	1	V	12	2	15 1/2	2	34 1/2	7/8	....	42	2	....	2	41 1/2	2	....	2	102	35 1/2
Armleder 20	4	1/4	1	1/4	V	13	1 3/4	16 1/2	1 1/4	31 3/4	2	F	11 1/2	3 1/4	1/4	4	11 1/2	3 1/4	1/4	4	104 1/4	32
Armleder KW-3 1/2—1916-21	4	1/4	1 1/4	1/4	V	12 1/4	2	16 1/2	1 1/4	36	2	F	42	3	1/4	1	16	3 3/4	1/4	8	150	36
Armleder HW-2 1/2—1916-21	4	1/4	1 1/4	1/4	V	10	1 1/2	11 1/2	1 1/4	34	2	F	13 1/4	3 1/2	1/4	4	13 1/4	3 1/2	1/4	4	140	32
Atco B-1 1/2	4	1/4	1	1	V	11	2	11	1 1/4	31 1/2	2	F	25 1/2	2 1/2	1/4	4	18	2 1/2	1/4	4	109 3/4	32
Atco B1-1 1/2	4	1/4	1	1	V	11	2	11	1 1/4	31 1/2	2	F	46	2 1/2	1/4	2	46	2 1/4	1/4	2	109 3/4	32
Atco A-2 1/2	4	1/4	1 1/4	1 1/4	V	12	2	11	1 1/4	33 1/4	1 1/4	F	25 1/2	2 1/2	1/4	4	18	2 1/2	1/4	4	124 1/4	33
Atlas 21-1	3	1/4	1/4	1/4	H	9	2 1/4	14 1/2	2 1/4	31 1/2	1	F	40	2 1/4	1 1/4	1	22 1/2	2 1/4	1/4	1	84 3/4	33 1/4
Atterbury 20R-1 1/2—1920	4	1/4	1	3/8	....	8	1 1/2	14	1 1/2	38 1/4	1 1/4	F	11 1/4	3 1/4	1/4	4	11 1/4	3 1/4	1/4	4	122 1/2	34
Atterbury 7CX-2 1/2—1919-20	3	1/4	1 1/4	3/8	....	5 3/4	1 1/4	6 3/4	1 1/4	30 1/4	1 1/4	F	13 1/4	3 1/2	1/4	4	13 1/4	3 1/2	1/4	4	133 3/8	34
Atterbury 7D-3 1/2—1917-20	3	1/4	1 1/4	3/8	....	8	1 1/2	6	1 1/4	30 1/4	1 1/4	F	15 1/2	3 3/4	1/4	4	15 1/2	3 3/4	1/4	4	145 1/2	37 1/2
Atterbury 8E-5—1919-20	3	1/4	1 1/2	3/8	....	14	2	20 1/2	2	40	2	F	17 3/4	4	1/4	4	17 3/4	4	1/4	4	157 7/8	37 1/2
Autocar XXI-F-2—1915-20	4	1/4	1 1/8	....	....	3	1 1/8	4	1 1/4	....	....	....	16 3/4	2 1/2	1/4	4	13	2 1/2	1/4	4	91	34
Autocar XXI-G-2—1920	4	1/4	1 1/8	....	....	3	1 1/8	4	1 1/4	....	....	....	....	2 1/2	1/4	4	13	2 1/2	1/4	4	114	34
Autocar XXVI-Y4—1920	3	1/4	1 1/8	....	....	3 1/2	1 1/2	3	1 1/2	48 3/4	1 1/2	F	25 1/2	2 3/4	1/4	4	25 1/2	2 3/4	1/4	4	121	34 1/4
Autocar XXVI-B-4—1920	3	1/4	1 1/8	....	....	3 1/2	1 1/2	3	1 1/2	48 3/4	1 1/2	F	25 1/2	2 3/4	1/4	4	25 1/2	2 3/4	1/4	4	176	34 1/4
Available H-1 1/2—1920	4	1/4	2 1/4	1 1/4	....	11	1 5/8	14	1 5/8	40	2	....	48	2 1/2	1/4	2	36	2 1/2	1/4	2	120	32
Available H-2 1/2—1916-20	3	1/4	2 1/4	1 1/4	....	11	1 5/8	14	1 5/8	40	2	....	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	144	32
Available H3—1916-20	3	1/4	2 1/2	1 1/4	....	11	1 5/8	14	1 5/8	42	2	....	16	3 3/4	1/4	4	16	3 3/4	1/4	4	168	36
Available H5—1916-20	3	1/4	2 1/2	1 1/4	....	12	2	16	2	40	2	....	18	4	1/4	4	18	4	1/4	4	168	38
Available H7—1919-20	3	1/4	2 1/2	1 1/4	....	12	2	16	2	40	2	....	72	3 1/2	1/4	2	72	3 1/2	1/4	2	168	38
Available H2—1921	4	1/4	2 1/4	1 1/4	V	12	1 5/8	14	1 5/8	40	2	F	48	2 1/2	1/4	2	36	2 1/2	1/4	4	120	32
Available H2 1/2—1921	4	1/4	2 1/4	1 1/4	V	12	1 5/8	14	1 5/8	40	2	F	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	144	32
Available H3 1/2—1921	4	1/4	2 1/2	1 1/4	V	12	1 5/8	14	1 5/8	42	2	F	16	3 3/4	1/4	4	16	3 3/4	1/4	4	168	36
Available H5—1921	4	1/4	2 1/2	1 1/4	V	12	2	16	2	40	2	F	18	4	1/4	4	18	4	1/4	4	168	38
Available H7—1921	4	1/4	2 1/2	1 1/4	V	12	2	16	2	40	2	F	72	3 1/2	1/4	2	72	3 1/2	1/4	2	168	38
Avery 1—1920	3	1/4	....	1	....	10	2	6 1/2	2	31 3/4	1 1/2	F	19 1/2	2	1/4	4	18 1/2	2	1/4	4	85	34
Bell M1	4	1/4	1	1/4	V	10	2	10	1 1/2	32	2	F	36	2 1/2	1/4	1	42	3	1/4	1	110	34
Bell E-2	4	1/4	1	1/4	V	10	2	10	1 1/2	32	2	F	39	2 1/2	1/4	1	48	3	1/4	1	114	34
Bell O-3	4	1/4	1 1/4	1/4	V	10	2	10	1 1/2	32	2	F	48	2 1/2	1/4	1	54	3	1/4	1	126	34
Belmont A-1	....	....	1	1 1/2	....	....	....	....	....	....	....	....	32	2	1/4	2	31	1 1/2	1/4	2	78	34
Belmont B-1 1/2	....	....	1	1 1/2	....	....	....	....	....	....	....	....	41	2	1/4	2	40	1 1/2	1/4	2	120	36
Belmont C-2	....	....	1	1 3/4	....	....	....	....	....	....	....	....	41	2 1/2	1/4	2	40	2	1/4	2	124	36
Bessemer G-1—1917-20	3	1/4	1	1/4	V	10	2 1/4	11 1/2	2 1/4	42	3/8	V	47 1/2	2	1/4	2	45 1/2	2 1/4	1/4	2	98	34
Bessemer H-2-1 1/2—1917-20	3	1/4	1	1/4	V	10	2 1/4	11 1/2	2 1/4	43	3/8	V	56 1/2	2 1/2	1/4	2	55	2 1/4	1/4	2	116	34
Bessemer J2-2 1/2—1919-20	3	1/4	1 1/4	1/4	V	5	1 7/8	12	2 1/2	36 1/4	1 1/4	F	56 1/2	2 1/2	1/4	2	55	2 1/4	1/4	2	141	34
Bessemer K2-4—1919-20	3	1/4	1 1/4	1/4	V	10	2 1/4	11 1/2	2 1/4	39 3/8	1 1/2	F	58 1/2	3 1/2	1/4	2	30 1/4	4 1/2	1/4	1	157 1/2	38
Bowman Speed Wagon	4	1/4	1 1/2	1 1/4	V	8	2	14	2	18	1 1/2	....	37 1/4	1 3/4	1/4	2	....	....	....	....	84	42
Brinton C-1 1/2—1921-22	3	1/4	1 1/8	3/8	....	11	1 1/4	13	1 1/4	33	1/4	F	39	2 1/2	1/4	1	38	2 1/2	1/4	1	118	33
Brinton F-2 1/2—1914-1920	3	1/4	1 1/8	3/8	....	11	1 1/4	13	1 1/4	33	1/4	F	13	3 1/2	1/4	2	13	3 1/2	1/4	2	135 1/2	33
Brockway S2-1 1/2—1919-20	3	1/4	1	....	V	10 1/2	2 1/4	5 1/2	2 1/4	39	1 1/4	F	20	2	1/4	4	20	2	1/4	4	118	32
Brockway K4-2 1/2—1919-20	3	1/4	1 1/4	....	V	6 1/2	1 3/4	13	1 1/4	34	1 1/4	F	12	3 3/4	1/4	4	12	3 3/4	1/4	4	142	34
Brockway R-2-3 1/2—1919-20	3	1/4	1 1/4	....	V	9 1/2	1 3/4	14	1 1/4	34	1 1/2	F	15 3/8	3 3/4	1/4	4	15 3/8	3 3/4	1/4	4	176	36
Brockway T-5—1919-20	3	1/4	1 1/2	....	V	13	2	22	2	40 3/8	2	F	18	4	1/4	4	18	4	1/4	4	176	36
Buffalo Tractor-Truck	4	1/4	1 1/4	1/4	V	7	1 5/8	13	1 5/8	41 1/2	2	F	48 3/8	2 1/4	1/4	2	48 3/8	2 1/4	1/4	2	124	....
Capitol G1 1/2	3	1/4	1 1/8	1 1/8	V	18	1 3/4	18	1 1/4	32 1/4	1 1/4	F	47 1/4	2 1/2	1/4	1	33 1/4	2 1/2	1/4	1	120	32
Capitol H-2 1/2 and K-2 1/2	3	1/4	1 1/8	1 1/4	V	18	1 3/4	18	1 1/2	39 1/2	2	F	57 1/2	2 1/2	1/4	1	42 1/2	2 1/2	1/4	1	132	34
Capitol M-3 1/2	3	1/4	1 1/8	1 1/4	V	18	1 3/4	18	1 1/2	39 1/2	2	F	57 1/2	2 1/2	1/4	1	42 1/2	2 1/2	1/4	1	144	34
Case	3	1/4	1 1/8	1 1/4	V	7	1 1/2	6	1 1/2	47 1/2	2	....	25 1/2	2 1/2	1/4	4	24 1/4	2 1/4	1/4	4	106	31
Chicago C-1 1/2—1919-20	4	....	1	1 1/2	....	....	....	....	....	....	....	....	12 1/8	3 1/4	1/4	4	12 1/8	3 1/4	1/4	4	123	32
Chicago C-2 1/2—1919-20	4	....	1 1/4	1 1/4	....	....	....	....	....	....	....	....	13 3/4	3 1/2	1/4	4	13 3/4	3 1/2	1/4	4	135	32
Chicago C-3 1/2—1919-20	4	....	1 1/4	1 1/4	....	....	....	....	....	....	....	....	16	3 3/4	1/4	4	16	3 3/4	1/4	4	180	36 3/4
Chicago D-5—1920	4	....	1 1/4	1 1/4	....	....	....	....	....	....	....	....	18	4	1/4	4	18	4	1/4	4	180	36 3/4
Climber A-20	3	1/4	1	1 1/4	H	....	....	....	....	32	1	....	16	2 1/4	1/4	2	16	2 1/8	1/4	2	120	34
Clydesdale 120B-5	3	1/4	1 1/4	1/4	V	9	2	18 1/2	2	46 1/2	2	F	18	4	1/4	4	18	4	1/4	4	131	38
Clydesdale 90-3 1/2	3	1/4	1 1/8	1/4	V	9	1 1/2	14	1 1/2	42	1 1/2	F	16	3 3/4	1/4	4	16	3 3/4	1/4	4	143	38
Clydesdale 65EX 2 1/2	3	1/4	1 1/8	1/4	V	9	1 1/2	14	1 1/2	42	1 1/2	F	13 1/4	3 1/4	1/4	4	13 1/4	3 1/2	1/4	4	132	33 1/4
Clydesdale 65X-2 1/2	3	1/4	1 1/8	1/4	V	11	1 1/2	11	1 1/2	40	1 1/2	F	13 1/4	3 1/2	1/4	4	13 1/4	3 1/2	1/4	4	137	33 1/4
Clydesdale 42-1 1/2	3	1/4	1 1/4	1/4	V	9	1 1/2	12	2	41	....	V	12	3 1/4	1/4	4	12	3 1/4	1/4	4	117	34
Clydesdale 20-1	3	1/4	1 1/8	1/4	V	15	2	12	2	41	....	V	11 1/4	3	1/4	4	11 1/4	3	1/4	4	95	34
Clydesdale 18-3/4	3	1/4	1 1/8	1/4	V	15	2	12	2	41	....	V	11 1/4	2 1/2	1/4	4	11 1/4	2 1/2	1/4	4	95	34
Collier 18-1—1919-20	3	1/4	1	....	V	9 3/4	2	10 1/2	1 1/4	40	1	F	24	3 1/2	1/4	4	24	3 1/2	1/4	4	106	35 1/4
Collier 19-1 1/2—1919-20	3	1/4	1	....	V	9 3/4	2	10 1/2	1 1/4	40	1	F	24	3 1/2	1/4	4	24	3 1/2	1/4	4	120	32
Collier 21-2—1918-20	3	1/4	1 1/2	....	V	6	1 1/2	10 1/2	1 1/4	40	1	F	27 1/2	3 1/2	1/4	4	27 1/2	3 1/2	1/4	4	132	32
Collier 22-2 1/2—1919-20	3	1/4	1 1/2	....	V	6	1 1/2	10 1/2	1 1/4	40	1	F	27 1/2	3 1/2	1/4	4	27 1/2	3 1/2	1/4	4	144	32

Replacement Table—Continued

Name, Model and Tonnage	ENGINE											BRAKE LINING								FRAME	
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length	Width
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Over All
Columbia G-2½—1921	3	¼	1¼	1¼	V	11	1¼	10	1¼	38	1¼	F	55	3	¼	2	50	2	¼	2	132	32¼
Columbia H	3	¼	1	1	V	12	2	11	1¼	38	1¼	F	42	2½	¼	2	40½	1¾	¼	2	120	32½
Commerce T-1500	3	¼	1	¼	V	10	2	10	2	44	¾	V	50	2	¼	2	48½	2	¼	2	92⅝	34
Commerce 12-3000	3	¼	1	¼	V	10	2	10	2	44	¾	V	45	2½	¼	2	43	2¼	¼	2	99⅝	34
Commerce 16-4000	3	¼	1	¼	V	10	2	10	2	44	¾	V	50¾	2½	¼	2	48	2¼	¼	2	108⅝	34
Commerce 18-5000	3	¼	1¼	¼	V	6	1½	11	1½	33	1¼	F	50¾	2½	¼	2	48	2¼	¼	2	128⅝	34
Concord A-2—1921	4	¼	1¼	¼	H	11	2⅜	11	1½	34	2	F	12	3¼	¼	4	12	3¼	¼	4	108¼	32¼
Concord AX-2—1921	4	¼	1¼	¼	H	11	2⅜	11	1½	34	2	F	12	3¼	¼	4	12	3¼	¼	4	122¾	32½
Concord B-3—1921	4	¼	1¼	¼	H	11	2⅜	11	1½	34	2	F	13½	3½	¼	4	13½	3½	¼	4	122½	32¾
Concord BX-3—1921	4	¼	1¼	¼	H	11	2⅜	11	1½	34	2	F	13½	3½	¼	4	13½	3½	¼	4	155⅝	32¾
Corbitt E-1—1917–20	3	¼	1	¼	....	8	2	14	2	38	⅝	V	19	2	¼	2	19	2	¼	2	105	34
Corbitt D-1½—1916–20	3	¼	1¼	¼	....	8	2	14	2	38	⅝	V	45¼	2	¼	1	45¼	2	¼	1	120	34
Corbitt C-2—1915–20	3	¼	1¼	¼	....	14	1¼	13	1¼	36	1¼	F	51½	2¼	¼	1	51½	2¼	¼	1	138	35
Corbitt B-2½—1916–20	3	¼	1¼	¼	....	14	1¼	13	1¼	36	1¼	F	51½	2¼	¼	1	51½	2¼	¼	1	138	35
Corbitt AA-5—1919–20	3	¼	1½	¼	....	13	1¼	8	1¼	36	2	V	69¾	3	¼	1	69¼	3	¼	1	160	38
Corbitt A-3½—1917–20	3	¼	1¼	¼	....	13	2	14	2	36	1¼	V	64	2½	¼	1	64	2½	¼	1	160	35
Cyclone A-3000	3	¼	1	1	V	16	2	16	2	32½	1¼	F	21¼	2½	¼	4	19¾	2¼	¼	4	113	34
Dart H-1—1920–21	3	¼	1¼	1 11/16	H	11	2	8	1¾	36	1	F	19	1¾	¼	4	19	1¾	¼	4	102	34
Dart S-1½—1920–21	3	¼	1¼	1 11/16	H	11	2	8	1¾	36	1	F	19	1¾	¼	4	19	1¾	¼	4	112	34
Dart M-2½—1920–21	4	¼	1¼	1 11/16	H	11	2	14	1¼	35	2	F	10	2½	¼	2	19	3½	¼	4	124	34
Dart W-3½—1920–21	4	¼	1½	2	H	11	2	12	1½	36	2	F	28	2¾	¼	4	28	2¾	¼	4	144	38
Day-Elder A-1	3	¼	1¼	1½	V	9	2	9½	2	40	⅝	V	19	2	¼	4	19	2	¼	4	108	35
Day-Elder B-1½	3	¼	1¼	1½	V	9	2	9½	2	40	⅝	V	19	2	¼	4	19	2	¼	4	120	35
Day-Elder D-2	3	¼	1¼	1½	V	4	1½	9	1⅜	35	⅝	V	45	2	¼	2	45	2	¼	2	125	35
Day-Elder C-2½	3	¼	1¼	1½	V	10½	2	12	1⅝	36¾	2	F	52	2¼	¼	2	52	2¼	¼	2	123	35
Day-Elder F-3½	3	¼	1½	1¾	V	6¾	1¾	12	1¼	35¼	1½	F	56½	2½	¼	2	56½	2½	¼	2	148	35
Day-Elder E-5	3	¼	1½	1¾	V	12½	2	10	1⅜	38½	1½	F	69	3	¼	2	69	3	¼	2	155	37
Dearborn BW-2—1915–17–19–20	3	....	1	....	....	8¾	2	6	1⅜	37	1	F	18	2½	¼	2	18	1½	¼	2	130	32
Dearborn F-1½—1915–17–19–20	3	....	1	....	....	12	2	8	1¾	37	1	F	16½	2½	¼	2	16½	1½	¼	2	96½	34
Dearborn C-1—1915–17–19–20	3	....	¾	....	....	....	....	....	....	....	....	....	38	2	¼	1	38	2	¼	1	107	32
Defiance B-1½—1918–19–20	3	¼	1	1	V	10	2	8	2	40¾	1¼	F	45	2½	¼	1	43	2¼	¼	1	116	34
Defiance C-2—1918–19–20	3	¼	1	1	V	10	2	8	2	40¾	1¼	F	54 1/16	2½	¼	1	52½	2¼	¼	1	116	34
Defiance D—1920–21	3	¼	1	1	V	10	2	8½	1¼	40¾	1¼	F	45	2½	¼	1	43	2¼	¼	1	120	34
Defiance E—1920–21	3	¼	1	1	V	10	2	8½	1¼	40¾	1¼	F	54 1/16	2½	¼	1	52½	2¼	¼	1	120	34
Denby 31–1½—1921	3	¼	1	1	....	6	2⅜	19	2⅜	38 11/16	1¼	F	49	2½	¼	2	47½	2¼	¼	2	97⅝	34
Denby 33–1½–1921	3	¼	1	1	....	12	2	9	2	42	¾	V	8½	4	¼	2	46½	1½	¼	2	120	33¼
Denby 134-2—1921	3	¼	1	1	....	12	2	9	2	42	¾	V	53 11/16	3	¼	2	50 11/16	2	¼	2	127	34
Denby 25-3—1921	3	¼	1¼	1¼	....	12	2	9	2	35	1¼	F	56¼	3	¼	2	47¼	2	¼	2	127	34
Denby 27-4—1921	3	¼	1¼	1¼	....	13	1¾	16¼	1¼	39¾	1½	F	8½	4	¼	2	58	2½	¼	2	140	34
Denby 210-5—1921	3	¼	1¼	1¼	....	13	1¾	16¼	1¼	39¾	1½	F	8½	4	¼	2	89	2¼	¼	2	140	34
Dependable Dispatch A-1 1921	4	¼	1	¼	V	14	2¼	15	1¼	37½	2	F	53¼	2¼	¼	1	38¼	2¼	¼	1	108	33½
Dependable C-1½—1920–21	4	¼	1	¼	V	14	2¼	15	1⅓	37½	2	F	53½	2½	¼	1	38½	2½	¼	1	121	33
Dependable D-2 1920-21	4	¼	1¼	¼	V	10	2¼	11½	1¼	37½	2	F	53½	2½	¼	1	38½	2½	¼	1	140	33
Dependable E-2½—1920–21	4	¼	1¼	¼	V	10	2¼	11½	1¼	37½	2	F	63	2½	¼	1	49	2½	¼	1	152	33
Dependable G-3½ 1921	4	¼	1¼	¼	V	13	2	13	1¼	37½	2	F	63	2½	¼	1	49	2½	¼	1	170	33
Diamond T-O-3–1	3	¼	1	1¼	V	9	1¼	6	1¼	35	2	F	48	2½	¼	2	33	2½	¼	2	100	34
Diamond T-FS&T-1½	3	¼	1	1¼	V	9	1¼	6	1¼	35	2	F	11½	3¼	¼	4	11½	3½	¼	4	Opt	34
Diamond T-U-2	3	¼	1¼	1¼	V	9	1¼	6	1¼	35	2	F	13½	3½	¼	4	13¼	3½	¼	4	Opt	34
Diamond TK-3½	3	¼	1¼	1½	V	10	1½	10	1½	35	2	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	Opt	37
Diamond T-EL-5	3	¼	1¼	1½	V	10	1½	10	1½	35	2	F	18	4	¼	4	17 11/16	4	¼	4	Opt	37
Diamond T-S-5	3	¼	1½	1¾	V	9	2	21	2	40⅜	2	F	18	4	¼	4	17 11/16	4	¼	4	Opt	37
Diehl A	3	....	1	1	....	....	....	....	....	....	....	....	28	2½	¼	2	27	2	¼	2	90	....
Doane 2½—1917–18–19–20	3	¼	1¼	¼	H	9	1¼	12	1¼	32	1½	F	35	3	¼	2	18	3½	¼	4	126	53
Doane 3½—1920	3	¼	1¼	¼	H	12	1¼	15	1½	38⅜	1½	F	35	3	¼	2	18	3½	¼	4	156	58
Doane 6—1917–18–19–20	3	¼	1½	¼	H	15	1¼	17½	1¼	43	1½	F	38	3	¼	2	24	4	¼	4	168	64
Dodge Bros.-½—1920–21	3	¼	1⅛	¼	....	7	1½	7¼	1⅛	31	1	F	19¼	2¼	¼	2	14¾	1¾	¼	2	47⅜	38
D-Olt	3	¼	1	¼	H	18	2	18	2	36	1	F	54	3	¼	2	42	3	¼	2	240	34
Dorris K-4-2½—1918–20	3	¼	1¼	1¼	V	2¼	1½	6¼	1¼	40⅜	1	F	13½	3½	¼	4	13½	3½	¼	4	142¾	34
Dorris K7-3½—1919–20–21	3	¼	1¼	1¼	V	2¼	1½	6¼	1¼	40⅜	1	F	15¾	3¾	¼	4	15¾	3¾	¼	4	179½	36
Double Drive B3	4	¼	1¼	1¼	....	....	....	....	....	....	....	....	29	2¼	¼	1	29	2¼	¼	1	124	36
Douglas GW-1½	3	....	1¼	¼	....	....	....	....	....	....	....	....	45	2½	¼	2	44	2¼	¼	2	118	31
Douglas G-1½	3	....	1¼	¼	....	....	....	....	....	....	....	....	46	2½	¼	2	44	2¼	¼	2	118	31
Douglas H-2	3	....	1¼	¼	....	....	....	....	....	....	....	....	55	2½	¼	2	52	2¼	¼	2	118	31
Douglas HW-2	3	....	1¼	¼	....	....	....	....	....	....	....	....	54	2½	¼	2	42	2¼	¼	2	118	31
Douglas I-3	3	....	1¼	¼	....	....	....	....	....	....	....	....	58	2½	¼	2	44	2¼	¼	2	132	31
Drake T-60	3	¼	1¼	....	V	9	1½	8	1¼	.....	1¼	F	52¼	2½	¼	1	37	2½	¼	1	106	....
Duplex E-3½	3	¼	1¼	1	....	....	....	....	....	....	....	....	9½	2½	¼	2	5½	2½	¼	2	126	39½
Duplex A	....	....	1¼	1½	....	....	....	....	....	....	....	....	....	2	....	4	....	2	....	4	121	34
Duty 2—1921	3	¼	1½	1¼	V	7	2¼	18	2	38	1	F	45	2½	¼	1	40	1¾	¼	1	123	44
Eagle 100-2	4	¼	1¼	1	....	14	2	16	1¼	33⅜	2	....	49½	3	¼	1	46	2	¼	1	Opt	36
Earl 40	4	....	....	1	H	5	2	5	2	34½	1	....	40¾	2	....	....	21½	2	....	....	156¾	....
Fageol 1½—1920	3	¼	1 1/16	1½	V	15½	1¼	7	....	31	⅝	V	19¼	1¾	¼	2	19¼	1¾	¼	2	120	30
Fageol 2½—1917–20	3	¼	1 1/16	1 11/16	V	10	1¼	14½	....	34¾	1½	F	13¼	3½	¼	2	13¼	3¼	¼	2	141	34
Fageol 3½–4—1917–20	3	¼	1⅝	2	V	9	1¼	17½	....	40½	1½	F	15½	3¾	¼	2	15½	3¾	¼	2	159½	37¾
Fageol 5–6—1917–20	3	¼	1⅝	2	V	9	1¼	17½	....	40½	1½	F	18	4	¼	2	18	4	¼	2	161¾	37¾
Fargo O17, P18-2, P19-2, P20-2	3	¼	....	1⅛	....	10	2	10	2	42	⅝	V	52	3	¼	2	50½	2	¼	2	132	33
Fargo R—1921	3	¼	....	1⅛	....	10	2	10	2	42	⅝	V	52	3	¼	2	50½	2	¼	2	132	33
Federal sD-1-1½	4	¼	1	1 1/16	V	15	1½	7	1½	35⅝	1	F	10 11/16	3	¼	4	10 11/16	3	¼	4	112	34
Federal TE-1½-2	3	¼	1¼	1½	V	7	1¼	6	1½	32½	1	F	13 1/16	3½	¼	4	13 1/16	3½	¼	4	118	34
Federal UE-2-2½	3	¼	1¼	1½	V	7	1¼	6	1½	32½	1	F	13 1/16	3½	¼	4	13 1/16	3½	¼	4	134	34
Federal WE-3½–4	3	¼	1¼	1½	V	12½	1¼	9	1¾	39	1½	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	154	38
Federal X-2-5-6	4	¼	1 11/16	2	V	10	2⅛	14 1/16	1⅞	40⅞	1¾	F	17 11/16	4	¼	4	17 11/16	4	¼	4	154	38
Federal Light Duty	3	¼	1¼	1½	V	7	1¼	6	1½	32½	1	F	13 1/16	3½	¼	4	13 1/16	3½	¼	4	86	34
Federal Heavy Duty	3	¼	1¼	1½	V	12½	1¼	9	1¾	39	1½	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	82	38
Ford T-1	3	¼	1.06	1⅛	H	4	2	.....	1¾	27	1⅛	F	23⅜	1⅛	¼	1	12	1⅛	¼	2	60	23
Front Drive C1½	4	¼	1	1½	....	....	....	....	....	....	....	....	13	3	¼	2	15	3	¼	2	124	36
F.W.D. B-3	3	¼	1 11/16	¼	....	....	....	....	....	....	....	....	27	3½	¼	1	43	2¾	¼	2	136	36
Garford 15-¾-1921	4	¼	1	....	V	....	....	....	....	34	1½	F	11	2½	¼	4	11	2½	¼	4	96	34
Garford 25-1¼—1920	3	¼	1¼	....	H	....	....	....	....	37 1/16	1	F	11¾	3¼	¼	4	11¾	3¼	¼	4	108	34
Garford 70H-2—1920	4	¼	1¼	....	V	....	....	....	....	34 1/16	2	F	13 1/16	3½	¼	4	13 1/16	3½	¼	4	121	34
Garford 77D-3½—1920	4	¼	1¼	....	V	....	....	....	....	39	2	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	144	36
Garford 68D-5-1921	4	¼	1½	....	V	....	....	....	....	41 1/16	2	F	17¾	4	¼	4	17¾	4	¼	4	150	36
Garford 150-A-7½-1921	4	¼	1½	....	V	....	....	....	....	41 1/16	2	F	10½	4	⅜	2	21⅜	4	¼	4	150	36
Gary GT-1½	4	¼	1¼	⅜	....	10	2	12	1¼	32	1¼	F	24	3¼	¼	2	24	3¼	¼	2	120	34
Gary J-2½	4	¼	1¼	⅜	....	10	2	12	1¼	33	2	F	27	3½	¼	2	27	3½	¼	2	120	34
Gary K-3½	4	¼	1¼	⅜	....	13½	2	18	1¼	35	2	F	32	3¾	¼	2	32	3¾	¼	2	148	36¼
Gary M-5	4	¼	1½	⅜	....	12	2	16	1¼	37	2	F	36½	4	¼	2	36½	4	¼	2	168	39
Gersix K-2½—1920	4	¼	1¼	1¼	H	12	2	14	1¼	36	2	....	20	2½	¼	4	47	2¼	¼	2	131	34
Gersix M-1½—1920	4	¼	1¼	1¼	H	12	2	14	1¼	36	2	....	46	2	¼	2	46	2	¼	2	114	32
Gersix L-3½	4	¼	1¼	1¼	H	13½	2	16	1¼	36	2	....	56	2½	¼	2	56	2½	¼	2	144	36½
Giant 15A-1½	3	¼	1	....	....	....	....	....	....	....	....	....	19	2	¼	4	19	2	¼	4	116½	32
Giant 16-2½	3	¼	1¼	....	....	....	....	....	....	....	....	....	45½	2	¼	2	45½	2	¼	2	140½	33

Replacement Table—Continued

Name, Model and Tonnage	ENGINE												BRAKE LINING								FRAME	
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length	Width
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Over All
Giant 17-3½	3	⅛	1½	....	....	....	....	....	....	....	....	....	56½	2½	¼	2	46½	2½	¼	2	183½	36
Globe D-20	3	⅛	1	1	....	....	....	....	....	....	....	....	21	2	⅛	1	23¼	2	⅛	1	75	33 ⅛
G.M.C. K-15	4	⅛	1¼	1⅝	V	8¾	1½	8 ⅛	1½	35 7/8	⅛	V	49⅝	2⅛	⅛	2	47	2⅜	⅛	2	89	34
G.M.C. K-16	4	⅛	1¼	1⅝	V	8¾	1½	8 ⅛	1½	35 7/8	⅛	V	49⅝	2⅛	⅛	2	47	2⅜	⅛	2	89	34
G.M.C. K-41	4	¼	1¼	1⅝	V	10⅛	1¾	9½	1¾	37⅞	⅛	V	13	3½	¼	4	13	3½	¼	4	Opt	33
G.M.C. K-71	4	¼	1¼	1⅝	V	11¾	1¾	9½	1¾	37⅞	⅛	V	15⅛	3¾	¼	4	15⅛	3¾	¼	4	Opt	38
G.M.C. K-101	4	¼	1¼	1⅝	V	11¾	1¾	9½	1¾	37⅞	⅛	V	17¾	4	¼	4	17¾	4	¼	4	Opt	38
Gove A-1-2½	3	⅛	1¼	....	....	....	....	....	....	....	....	....	54 ⅛	2½	⅛	2	24¼	2¼	⅛	4	119½	34
Graham A	3	⅛	1	1½	V	5	....	4	....	64	1¼	F	21	2½	⅛	2	21	2½	⅛	2	140¾	33
Gramm-Bernstein 10 Speed—1921	3	⅛	1	1½	H	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	97	30
Gramm-Bernstein 15-1½—1921	3	⅛	1	1½	H	10¼	2	6	2	39	1¼	F	48½	2	⅛	2	45⅞	1½	⅛	2	120	32
Gramm-Bernstein 65-1½—1921	3	⅛	1	1½	V	10¼	2	6	2	39	1¼	F	19¾	1¾	⅛	4	19¾	1¾	⅛	4	120	32
Gramm-Bernstein 20-2—1921	3	⅛	1¼	1½	V	4½	1½	12	1½	32	2	F	45	2	⅛	4	45	2	⅛	4	126	32 ⅛
Gramm-Bernstein 25-2½—1921	3	¼	1¼	1½	V	11	1½	9	1½	33¾	2	F	22¾	2¼	¼	4	22¾	2¼	¼	4	129¾	36
Gramm-Bernstein 30—1921	3	¼	1¼	1½	....	....	....	....	....	....	....	....	22¾	2¼	¼	4	22¾	2¼	¼	4	129¾	36
Gramm-Bernstein 35-3½—1921	3	¼	1¼	1½	V	11	1½	9	1½	33¾	2	F	28¾	2¾	¼	4	28¾	2¾	¼	4	144	36
Gramm-Bernstein 50-5—1921	3	¼	1½	1¾	V	23¼	2	13¾	1⅞	40¾	2	F	32 ⅜	2¾	¼	4	32 ⅜	2¾	¼	4	162	36
G. W. W	3	¼	1¼	1¾	V	12	1¾	11	1¾	37	2	F	49	2½	¼	2	47	1½	¼	2	89	32
Hall 2-Worm-2½	3	⅛	....	....	....	8	1¼	12½	1¼	32	1¼	F	11½	3	¼	4	11½	3	¼	4	144	38
Hall 3½-Worm	3	⅛	....	....	....	12½	1¾	15½	1¼	38⅛	1½	F	15	3¾	¼	4	15	3¾	¼	4	180	39
Hall 5-Worm	3	⅛	....	....	....	12½	1¾	15½	1¼	38⅛	1½	F	18	4	¼	4	18	4	¼	4	144	39
Hall 7-Chain	3	⅛	....	....	....	12½	1¾	15½	1¼	38⅛	1½	F	18	4	¼	4	18	4	¼	4	144	39
Hendrickson 1-2½	3	¼	1¼	⅛	....	....	....	....	....	....	....	....	12	3½	⅛	4	12	3½	⅛	4	Opt	32½
Hendrickson J-3½	3	¼	1½	⅛	....	....	....	....	....	....	....	....	16	3¾	⅛	4	16	3¾	⅛	4	Opt	36
Hendrickson K-5	3	¼	1½	⅛	....	....	....	....	....	....	....	....	18	4	⅛	4	18	4	⅛	4	Opt	38
Highway Knight A	3	¼	1 ⅜	1 ⅜	....	14	2¾	10	2¾	53	⅜	V	57	2½	¼	2	57	2½	¼	2	147	38
Highway Knight B-5	3	¼	1 ⅜	1 ⅜	....	14	2¾	10	2¾	53	⅜	V	69	3	¼	2	69	3	¼	2	147	38
Higrade A18-1—1918–19	3	⅛	1	1	V	9	2	7	2	32	½	R	12	1½	¼	2	12	1½	¼	2	85	32
Higrade B20-1½—1919–20	3	⅛	1⅛	1⅛	V	9	2	7	2	32	½	R	18	2	¼	2	18	2	¼	2	100	32
Holmes 4WD-2	3	⅛	1½	....	....	....	....	....	....	....	....	....	24	2	⅛	1	46	3	⅛	2	120	30
Huffman B-1½—1919–20	3	⅛	1	⅛	....	....	....	....	....	....	....	....	44	2½	⅛	2	44	1½	⅛	2	123	32
Huffman C-1½—1919–20	3	⅛	1	⅛	....	....	....	....	....	....	....	....	46	2½	⅛	2	44	2¼	⅛	2	123	32
Hurlburt A1½-2	3	....	1¼	1	....	....	....	....	....	....	....	....	22	2	¼	2	22	2	¼	2	132	35½
Hurlburt B2½	3	⅛	1¼	1	....	....	....	....	....	....	....	....	24	2½	¼	2	23	2½	¼	2	154	34
Hurlburt C3½-4	3	¼	1½	1¼	....	....	....	....	....	....	....	....	26	3	¼	2	25	3	¼	2	144½	34
Hurlburt D5-5½	3	¼	1½	1¼	....	....	....	....	....	....	....	....	28	3	¼	2	27	3	¼	2	144½	34
Huron-Erie 1½	4	....	1	1½	....	....	....	....	....	....	....	....	15	3	¼	2	50	2	⅛	2	121	33
Huron-Michigan 2½	4	....	1¼	1 ⅜	....	....	....	....	....	....	....	....	15	3	¼	2	50	2½	⅛	2	145	33
Indiana 12-1½—1921	3	¼	1	....	....	17	1¾	14	1¼	38½	1	....	17½	2	⅛	4	17½	2	⅛	4	108	32
Indiana 20-2—1921	3	¼	1¼	....	....	6	1¾	13	1¼	26⅝	1½	....	44	2	¼	2	44	2	¼	2	126	33
Indiana 25-2½—1921	3	¼	1¼	....	....	6	1¾	13	1¼	26⅝	1½	....	51	2¼	¼	2	51	2¼	¼	2	138	33
Indiana 35-3½—1921	3	¼	1¼	....	....	6	1¾	13	1¼	26⅝	1½	....	56	2½	¼	2	56	2½	¼	2	144	34½
Indiana 51-5—1921	3	¼	1½	....	....	10	1½	17½	1½	26⅝	1½	....	68	3	¼	2	68	3	¼	2	156	37½
International S-1500 lbs.–Speed Truck '21	3	¼	1¼	1¼	V	9¾	2¼	17¾	2¼	30¼	1	F	38	2	⅛	2	36	2	⅛	2	90	34
International 21-2000 lbs.—1916–21	3	¼	1¼	1¾	V	6	1½	3½	1⅛	38⅛	1⅛	F	43¾	2¼	⅛	2	43¾	2¼	⅛	2	75 ⅜	34
International 31-3000 lbs.—1916–21	3	¼	1¼	1¾	V	6	1½	3½	1⅛	38⅛	1⅛	F	43¾	2¼	⅛	2	43¾	2¼	⅛	2	106½	34
International 41-4000 lbs.—1918–21	3	¼	1¼	1¾	V	6	1½	3½	1⅛	38⅛	1⅛	F	50⅝	2¼	⅛	2	50⅝	2¼	⅛	2	111 ⅛	32¼
International 61-6000 lbs.—1918–21	4	¼	1¼	1¾	V	9	2¼	14½	2	....	....	....	50⅝	2¼	⅛	2	50⅝	2¼	⅛	2	118 ⅜	34
International 101-10,000 lbs.—1920–21	4	¼	1¼	1¾	V	9	2¼	14½	2	....	....	....	73 ⅛	2½	⅛	2	73 ⅛	2½	⅛	2	147⅝	34
Jackson B 3½	3	⅛	1¼	1½	V	11	....	....	....	32½	1¾	F	58½	3½	¼	2	....	....	....	....	150	36
Jumbo 15-1½—1919	4	¼	....	1	V	12½	1¾	18	1¼	33⅜	2	F	48½	2	⅛	2	47	1½	⅛	2	120	32
Jumbo 20-2—1919	4	¼	....	1	V	12½	1¾	18	1¼	33⅜	2	F	48½	2	⅛	2	47	1½	⅛	2	120	32
Jumbo 25-2½—1917–19	3	¼	....	1¼	V	12	2	10	1¼	33¾	1¾	F	49¾	3	⅛	2	47½	2½	⅛	2	116	34
Jumbo 30-3—1917–19	3	¼	....	1¼	V	12	2	10	1¼	33¾	1¾	F	49¾	3	⅛	2	47½	2½	⅛	2	116	34
Jumbo 35-3½—1919	4	¼	....	1¼	V	17¾	2	21½	1¼	36⅛	2	F	60½	3	⅛	2	58½	2½	⅛	2	144	36
Jumbo 40-4—1919	4	¼	....	1¼	V	17¾	2	21½	1¼	36⅛	2	F	60½	3	⅛	2	58½	2½	⅛	2	144	36
Kalamazoo G-2-1½	3	¼	1 ⅛	1 ⅛	....	15½	1½	8	1½	40	1½	F	50	2½	⅛	1	.....	2½	⅛	1	120	32½
Kalamazoo H-2½	3	¼	2 ⅛	1 ⅛	....	20	1¾	19½	1½	42	2	F	90	2½	⅛	1	48	2½	⅛	1	144	33
Kalamazoo K-3½	3	¼	2 ⅛	1 ⅛	....	20	1¾	19½	1½	42	2	F	60	2½	⅛	1	60	2½	⅛	1	152	36
Kearns H-¾	3	⅛	1	⅛	H	16	2	16	2	33	1	F	42	2	⅛	1	21	2	⅛	2	90	34
Kearns N-1½	3	⅛	1	⅛	H	18	2	18	2	33	1	F	45	2½	⅛	1	22	2¼	⅛	2	120	34
Kelly-Springfield K31 1½	4	¼	1	⅛	V	7	1½	13	1½	54½	1	V	16¾	1⅞	⅛	4	16¾	1⅞	⅛	4	141	34
Kelly-Springfield K34 1½	4	¼	1	⅛	V	7	1½	13	1½	54½	1	V	42⅝	2	¼	2	42⅝	2	¼	2	141	34
Kelly-Springfield K35 2½	4	¼	1	⅛	V	7	1 ⅜	13	1¾	55½	1	V	16¾	1⅞	⅛	4	16¾	1⅞	⅛	4	141	34
Kelly-Springfield K36 2½	4	¼	1	⅛	V	7	1 ⅜	13	1¾	55½	1	V	48⅞	2¼	¼	2	48⅞	2¼	¼	2	141	34
Kelly-Springfield K40 3½	4	¼	1¼	⅛	V	7	1⅝	23	1½	62⅛	1	V	21	2⅞	⅛	4	21	2⅞	⅛	4	145	38
Kelly-Springfield K41 3½	4	¼	1¼	⅛	V	7	1⅝	23	1½	62⅛	1	V	3 ⅛	4½	¼	12	58	2½	¼	2	144	36
Kelly-Springfield K42 3½	4	¼	1¼	⅛	V	2	1⅝	23	1½	62⅛	1	V	27½	2¾	¼	8	27½	2¾	¼	4	144	36
Kelly-Springfield K 50-5	4	¼	1¼	⅛	V	8	1 ⅜	23	1 ⅜	60⅝	1	V	21	2⅞	⅛	4	21	2⅞	⅛	4	145	38
Kelly-Springfield K60-6	4	¼	1¼	⅛	V	8	1 ⅜	23	1 ⅜	60⅝	1	V	21	2⅞	⅛	4	21	2⅞	⅛	4	145	38
Keystone 40-2—1919–20	3	¼	1	⅛	V	8	2⅛	8	2⅛	38	1	F	50½	3	⅛	1	46¾	2	⅛	1	124	33
Kimball AB-2	3	¼	1¼	1¾	V	....	....	....	....	39	2	F	45	2	¼	2	45	2	¼	2	135	34
Kimball AC-2½	3	¼	1¼	1¾	V	....	....	....	....	39	2	F	22½	2¼	¼	4	22½	2¼	¼	4	152	34
Kimball AK3	3	¼	1¼	1¾	V	....	....	....	....	39	2	F	22½	2¼	¼	4	22½	2¼	¼	4	152	34
Kimball AE-4	3	¼	1½	1¾	V	....	....	....	....	42	2	F	56	2½	¼	2	56	2½	¼	2	171	36
Kimball AF-5	3	¼	1½	1¾	V	....	....	....	....	42	2	F	69	3	¼	2	69	3	¼	2	171	36
Kissel-1 Ton—1921	3	⅛	....	1¼	....	12¾	1¾	10	1½	46¾	2	F	11	3	¼	4	11	3	¼	4	101¼	34
Kissel-Utility 1½—1917–20	3	⅛	....	1¼	....	12¾	1¾	10	1½	46¾	2	F	19	2	⅛	4	19	2	⅛	4	120	34
Kissel-Freighter-2—1917–20	3	⅛	....	1¼	....	12¾	1¾	10	1½	49	2	F	14	3½	¼	4	14	3½	¼	4	144	34
Kissel-Heavy-Duty-3½—1917–20	3	⅛	....	1¼	....	13¾	1¾	10	1½	52¼	2	F	56	2½	⅛	2	56	2½	⅛	2	156	36
Kissel-Goliath-5—1919–20	3	⅛	....	1¼	....	....	....	....	....	55	2	F	56	2½	⅛	2	56	2½	⅛	2	168	36
Kleiber 1	3	⅛	1¼	1¾	....	13	1½	16	1¼	36	⅜	....	12	3½	4	4	12	3½	¼	4	120	34
Kleiber 1½	3	⅛	1¼	1¾	....	13	1½	16	1¼	38	1¼	....	45	2	4	2	45	2	¼	4	132	34
Kleiber 2	3	⅛	1¼	1¾	....	13	1½	16	1¼	40	1¼	....	13½	3½	4	4	13½	3½	¼	4	144	34
Kleiber 2½	3	⅛	1¼	1¾	....	13	1¾	16	1¼	40	1¼	....	52	2¼	4	2	52	2¼	¼	2	150	34
Kleiber 3½	3	⅛	1¼	1¾	....	13	1¾	16	1¼	40	1¼	....	16	3¾	4	4	16	3¾	¼	4	156	38
Kleiber 5	4	¼	1½	1¾	....	13	1¾	16	1¼	43	1¼	....	18	4	4	4	18	4	¼	4	168	38
Koehler D-1½	3	⅛	1	¼	V	9¼	2	12½	2	37½	1¼	....	40	1¾	⅛	2	40	1¾	⅛	2	113¼	34
Koehler M-2½	4	⅛	1¼	¼	V	5¾	1⅝	5¼	1¼	40¾	1¾	....	13	3½	¼	4	13	3½	¼	4	141¾	34
Koehler MCS-2½	4	⅛	1¼	¼	V	5¾	1⅝	5¼	1¼	40¾	1¾	....	13	3½	¼	4	13	3½	¼	4	129¾	34
Koehler F-3½	4	⅛	1¼	¼	V	9	1⅝	5¼	1¼	....	....	....	15½	3¾	¼	4	15½	3¾	¼	4	139½	34
Koehler MT 5-Tractor 5	4	⅛	1¼	¼	V	5¼	1⅝	5¼	1¼	40¾	1¾	....	13	3½	¼	4	13	3½	¼	4	.....	34
Lange 2	3	⅛	1	1⅛	V	3½	2¼	11	2	36½	⅜	F	30	2	¼	2	18	3	¼	4	114	37
Larrabee-Deyo U-1½—1919–20	3	⅛	1	....	V	9	2	9	2	38	⅝	V	48	2	¼	2	48	2	¼	2	108	34
Lar-Deyo A,B 18-19 & L-'20-3½	3	⅛	1¼	....	V	9	1½	6	1¼	36	1½	....	60	2½	¼	2	60	2½	¼	2	168	36
Lar.-Deyo C,D'18-19 & K'20-2½	3	⅛	1¼	....	V	8½	2	17½	2	44	2	F	54	2¼	¼	2	54	2¼	¼	2	150	36
Larrabee-Deyo W-5—1920	3	⅛	1½	....	V	6	1¾	6	1¼	36	1¼	F	72	3	¼	2	72	3	¼	2	152	36
Larrabee Deyo T-—1918–19	3	⅛	1¼	....	V	9	1½	6	1¼	36	1¼	F	72	3	¼	2	72	3	¼	2	157	36
Luedinghaus K2—1919–20	3	¼	1¼	1 ⅜	....	9	1¾	5	1¼	.....	1½	F	53.4	2½	¼	2	38½	2½	¼	2	120	34
Luedinghaus K2-LS—1920	3	¼	1¼	1 ⅜	....	9	1¾	5	1¼	.....	1½	F	53.4	2½	¼	2	38½	2½	¼	2	145½	34

Replacement Table—Continued

Name, Model and Tonnage	ENGINE												BRAKE LINING								FRAME	
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length	Width
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Over All
Luverne BBL-2	3	1/4	1 1/4	1 1/4						30 3/4	3/4	F		2 1/2	1/4	2		2 1/2	1/4	2	108	34
Maccar L-1 1/2—1915-20-21	3	1/4	1 1/4	1 5/8	V	3 1/4	1 1/2	10	1 1/4	41 1/2	1 1/2	F	11 5/8	3 1/4	1/4	4	11 5/8	3 1/4	1/4	4	128 1/8	34
Maccar H-2, 2 1/2—1921	4	1/4	1 1/4	1 5/8	V	9 1/2	1 1/2	15 1/2	1 1/2	41 1/2	1 1/2	F	13 7/16	3 1/2	1/4	4	13 7/16	3 1/2	1/4	4	141 1/2	34
Maccar HA 1921	4	1/4	1 1/4	1 5/8	V	11 1/4	1 1/2	17	1 1/2	37 1/2	2	F	13 7/16	3 1/2	1/4	4	13 7/16	3 1/2	1/4	4	143 5/8	34
Maccar M2-3 1/2—1920-21	3	1/4	1 1/4	1 5/8	V	8	1 3/4	13 1/2	1 1/2	37 1/2	2	F	14 3/4	3 3/4	1/4	4	14 3/4	3 3/4	1/4	4	155 1/2	34
Maccar G-5—1919-20-21	3	1/4	1 1/4	1 7/8	V	10 1/2	2	20 1/2	2	40 3/4	2	F	18	4	1/4	4	18	4	1/4	4	166 5/8	37 1/2
MacDonald A-7 1/2	4	1/4	1 1/4			12	2	21	1 1/4	35	2	F	70	3	1/4	1	34	3	1/4	1		
Mack AB1 1/2, 2, 2 1/2-Ton-Chain '16-20	4	1/4	1 1/4	3/4		9 1/2	1 1/2	4 3/4	1 1/2	33	1 1/2	F	12 1/4	4	1/4	2	16 1/2	2 1/2	1/4	4	Opt	33 1/4
Mack Dual Reduction, 1 1/2, 2, 2 1/2 -1921	4	1/4	1 1/4	3/4		9 1/2	1 1/2	4 3/4	1 1/2	33	1 1/2	F	18 1/4	3 1/2	1/4	2	12	6	1/4	2	Opt	33 1/4
Mack AB-Tractor 5 Ton—'16-20	4	1/4	1 1/4	3/4		9 1/2	1 1/2	4 3/4	1 1/2	33	1 1/2	F	12 1/4	4	1/4	2	16 1/2	2 1/2	1/4	4	77	33 1/4
Mack AC 3 1/2 to 7 1/2 ton—'16-20	4	1/4	1 1/4	3/4		5 3/4	2 1/4	4 3/4	1 1/2			V	16 1/8	3	1/4	4	20 1/2	3 1/2	1/4	4	Opt	37 1/2
Mack AC Trac. 7 to 15 Ton—'16-20	4	1/4	1 1/2	3/4		5 3/4	2 1/4	4 3/4	1 1/2			V	16 1/8	3	1/4	4	20 1/2	3 1/2	1/4	4	87	37 1/2
Master JI-1 1/2—1919-20	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	30 1/2	1	F	74 1/2	2 1/2	1/8	1	74 1/2	2 1/4	1/4	2	117 3/4	34 1/2
Master JW-1 1/2—1919-21	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	30 1/2	1	F	12	3 1/4	1/4	2	12	3 1/4	1/4	2	117 3/4	34 1/2
Master M-2 1/2—1916-20	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	33	1 1/4	F	74 1/2	2 1/2	1/8	1	74 1/2	2 1/4	1/4	1	117 3/8	34
Master O 2 1/2—1917-20	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	33	1 1/4	F	74 1/2	2 1/2	1/8	1	74 1/2	2 1/4	1/4	1	156 3/8	34
Master W-2 1/2—1916-21	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	31	1 1/4	F	13 1/4	3 1/2	1/4	2	13 1/4	3 1/4	1/4	2	117 3/8	34
Master WL 2 1/2—1917-21	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	31	1 1/4	F	13 1/4	3 1/2	1/4	2	13 1/4	3 1/4	1/4	2	156 3/8	34
Master D-2 1/2—1920-21	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	31	1 1/4	F	8 5/8	4 1/2	1/8	2	54 1/16	3	1/16	2	117 3/8	34
Master DL-2 1/2—1920-21	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	35	1 1/4	F	8 5/8	4 1/2	1/8	2	54 1/16	3	1/16	2	156 3/8	34
Master T-6 Tractor—1917-21	4	1/4	1 1/4	2	H	13 1/2	2	12 1/2	1 1/4	33	1 1/4	F	74 1/2	2 1/2	1/8	1	74 1/2	2 1/4	1/4	1	72 1/8	34
Master A-3 1/2—1918-21	4	1/4	1 1/2	1 3/4	H	13 1/2	2	15	1 1/4	35	2		16	3 3/4	1/4	2	16	3 3/4	1/4	2	147 3/4	36 1/4
Master AL-3 1/2—1918-21	4	1/4	1 1/2	1 3/4	H	13 1/2	2	15	1 1/4	35	2		16	3 3/4	1/4	2	16	3 3/4	1/4	2	183 3/4	36 1/4
Master E-3 1/2—1920-21	4	1/4	1 1/2	1 3/4	H	13 1/2	2	15	1 1/4	35	2		11	6	1/4	2	25	4	1/4	4	147 3/4	36 1/4
Master EI-3 1/2—1920-21	4	1/4	1 1/2	1 3/4	H	13 1/2	2	15	1 1/4	35	2		11	6	1/4	2	25	4	1/4	4	183 3/4	36 1/4
Master-B 5—1919-21	4	1/4	1 1/2	1 3/4	H	13 1/2	2	15	1 1/4	37	2		18	4	1/4	2	18	4	1/4	2	162 7/8	39
Master BL-5—1919-21	4	1/4	1 1/2	1 3/4	H	13 1/2	2	15	1 1/2	37	2		18	4	1/4	2	18	4	1/4	2	186 7/8	39
Master F-5—1920-21	4	1/4	1 1/2	1 3/4	H	13 1/2	2	15	1 1/2	37	2		11	6	1/4	2	25	4	1/4	4	162 7/8	39
Master FL-5—1920-21	4	1/4	1 1/2	1 3/4	H	13 1/2	2	15	1 1/2	37	2	F	11	6	1/4	2	25	4	1/4	4	186 7/8	39
Maxwell 1 1/2—1917-20	3	1/16	1	1	V	6 1/4	2 1/16	7 3/4	2 1/16	44 1/2	1 1/2		16	1 3/4	1/16	4	16	1 3/4	1/16	4	102	36
Menominee HT-1—1918-20	3	1/4	1	1 1/2									12	3 1/4	1/4	8					104	32
Menominee H-1 1/2—1916-20	3	1/4	1 1/4	1 3/4									13 1/2	3 1/2	1/4	8					122	32
Menominee D-2—1915-20	3	1/4	1 1/4	1 3/4									13 1/2	3 1/2	1/4	8					146	32
Menominee G-3 1/2—1916-20	3	1/4	1 1/2	2									16	3 1/2	1/4	8					149	36
Menominee J-5—1917-20	3	1/4	1 1/2	2									18 1/2	4	1/4	8					149	38
Menominee Ht-1—1920-late	3	1/4	1	1 1/2		9 1/4	1 3/4	10 1/2	1 1/4	33 3/4	1 1/4	F	47 1/16	2 1/2	1/16	2	33 1/4	2 1/2	1/16	2	102 3/4	32
Menominee H-1—1920-late	3	1/4	1	1 3/4		9 1/4	1 3/4	10 1/2	1 1/4	33 3/4	1 1/4	F	47 1/16	2 1/2	1/16	2	33 1/4	2 1/2	1/16	2	124	32
Menominee D-2—1920-late	3	1/4	1 1/4	1 3/4		3	1 3/4	3	1 1/2	37 3/4	2	F	57 1/2	2 1/2	1/16	2	42 1/2	2 1/2	1/16	2	131 1/2	32
Menominee G-3 1/2—1920-late	3	1/4	1 1/4	1 3/4		3	1 3/4	3	1 1/2	37 3/4	2	F	57 1/2	2 1/2	1/16	2	42 1/2	2 1/2	1/16	2	149	36
Menominee J-5—1920 late	3	1/4	1 1/2	2		3	1 3/4	3	1 3/4	40 3/4	2	F	69 1/16	3 1/2	1/16	2	52	2 1/2	1/16	2	149	38
Moline	3	1/16		1 1/4	H	10 1/2	2 1/4	4 1/2	2 1/4			F	21	2 1/2	1/16	2	20	2	1/16	2	108	32
Moreland 21B-1 1/2—1919-20-21	3	1/16	1 1/4	1 1/2	H	9	1 1/2	13	1 1/2	42	1 1/2	F	12	3 1/4	1/4	4	12	3 1/4	1/4	4	132	34
Moreland 21C-2 1/2—1919-20-21	3	1/16	1 1/4	1 1/2	H	9	1 1/2	13	1 1/2	42	1 1/2	F	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	156	34
Moreland 21H-4—1919-20-21	3	1/4	1 1/2	1 3/4	H	9	2	19	2	42	2	F	16	3 3/4	1/4	4	16	3 3/4	1/4	4	168	38
Moreland 21J-5—1919-20-21	3	1/4	1 1/2	1 3/4	H	9	2	19	2	42	2	F	18	4	1/4	4	18	4	1/4	4	168	38
Mutual 2B—1919-20	3	1/4	1 1/16	1 1/4	H	19	1 3/4	17	1 1/2	37 5/8	2	F	51	2 1/4	1/4	2	51	2 1/4	1/4	2	128 3/4	34
Mutual 2BP—1919-20	3	1/4	1 1/16	1 1/4	V	19	1 3/4	17	1 1/2	37 5/8	2	F	51	2 1/4	1/4	2	51	2 1/4	1/4	2	128 3/4	34
Napoleon 9-1—1919-20	3	1/16	1	1/16	V	6	2 1/4	12	2	36	1	F	44	2	1/16	1	30	2 1/2	1/16	1	101	35 1/4
Napoleon 11-1 1/2—1919-20	3	1/16	1	1/16	V	6	2 1/4	12	2	36	1	F	49	2	1/16	1	30	2 1/2	1/16	1	101	35 1/4
Nash 2018-1—1919-20	4	1/4	1 1/4	1 1/4		3	1 1/2	7 3/4	1 1/4	36	1	F	49 1/2	2	1/16	2	20 1/16	2 1/2	1/16	1	104 1/2	30 1/2
Nash 3018-2—1919-20	4	1/4	1 1/4	1 1/4		3	1 1/2			44	1	F	50 5/8	3	1/16	2	20 1/16	2 1/2	1/16	1	118 1/4	31 1/4
Nash 4017-2—1919-20	4	1/4	1 1/4	1 1/4		7	1 1/2			44	2	F	49 1/4	2 1/2	1/4	4	25 1/16	2 1/2	1/4	1	117 1/8	38 1/8
Nelson & LeMoon G 1 1/2	4	1/4	1 1/4	1/16									12	3 1/4	1/4	2	12	3 1/4	1/4	2	Opt	
Nelson & LeMoon G 2 1/2	4	1/4	1 1/4	1/16									12	3 1/4	1/4	2	12	3 1/4	1/4	2	Opt	
Nelson & LeMoon G 3 1/2	4	1/4	1 1/4	1/16									16 1/2	3 3/4	1/4	2	16 1/2	3 3/4	1/4	2	Opt	
Nelson & LeMoon G 5	4	1/4	1 1/2	1/16									18	4	1/4	2	18	4	1/4	2	Opt	
Netco DK-2	3	1/16	1 1/4	1 1/16	V	6 1/2	1 1/2	13 1/2	1 1/4	40 1/16	1 1/2	F	13	3 1/2	1/4	4	13	3 1/2	1/4	4	108 1/2	34 1/4
Netco HL-2 1/2-3	3	1/16	1 1/2	1 1/16	V	9	1 1/2	16	1 1/4	41 1/4	1 1/2	F	13	3 1/2	1/4	4	13	3 1/2	1/4	4	195 1/2	34 1/4
Niles E-2	3	1/16	1 3/4	1 3/4	V	8	1 1/4	11	1 1/4	30	3/4	F	12	3 1/4	1/4	2	12	3 1/4	1/4	2	147	56
Noble B30-1 1/2—1918-20	4	1/16	1	1 1/16		16 1/2	1 1/4	7	1 1/8	34 1/4	1 1/8		43	2	1/4	2	43	2	1/4	2	136	34
Noble C40-2—1919-20	4	1/4	1 1/4	1 1/16		12	1 1/4	9	2	34 1/4	1 1/8		43	2	1/4	2	43	2	1/4	2	148	34
Noble D50-2 1/2—1919-20	4	1/4	1 1/4	1 1/16		12	1 1/4	9	2	34 1/4	1 1/8		51	2 1/4	1/4	2	51	2 1/4	1/4	2	172	34
Noble E70-3 1/2—1919-20	4	1/4	1 1/4	1 1/16		16	1 1/4	14 1/2	2	34 1/4	1 1/8		57	2 1/2	1/4	2	57	2 1/2	1/4	2	172	36
Northway B-2	3	1/16	1 1/16	1 3/4	V	5 1/4	2 1/4	13 7/8	1 1/4	31	5/8	V	50 1/2	2 1/4	1/4	2	50 1/2	2 1/4	1/4	2	118	33
Northway B-3	3	1/16	1 1/16	1 3/4	V	5 1/4	2 1/4	13 7/8	1 1/4	31	5/8	V	54	2 1/2	1/4	2	54	2 1/2	1/4	2	173	34 1/8
Norwalk 25E-1	3	1/16	1	1/16	V	9	2 1/4	19	2 1/4	29	3/4	F	16 1/2	2 1/4	1/16	2	16 1/2	1 1/2	1/16	2	100	36
Norwalk 35E-1 1/2	3	1/16	1	1/16	V	9	2 1/4	19	2 1/4	29	3/4	F	16 1/2	2 1/4	1/16	2	16 1/2	1 1/2	1/16	2	124	34
Norwalk 35E Spec.-1 1/2	3	1/16	1	1/16	V	11	2	18	1 1/2	36	2	F	19	2	1/4	2	19	2	1/4	2	124	34
Ogden D-1 1/2			1	1		13	2	12	2	36	3/4										120	
Ogden E-2 1/2			1 1/4	2		10	1 1/16	14	1 1/16	30	1 1/4	F									144	
Ogden F-3 1/2			1 1/4	2		11	1 1/2	16	1 1/2	36	1 1/2	F									168	
Ogden G-5			1 1/2	3		9	2	18	2	40	2	F									168	
O. K.-1 1/2—1920	4	1/4	1 1/4	1 11/16	V	12	2	13 1/2	1 1/4	36	2	F	53	2 1/2	1/16	2	38	2 1/2	1/16	2	117	34
O. K.-2 1/2—1920	4	1/4	1 1/4	1 11/16	V	12	2	13 1/2	1 1/4	36	2	F	62	2 1/2	1/16	2	48	2 1/2	1/16	2	121	35
O. K. 3 1/2—1920	4	1/4	1 1/4	1 11/16	V	12	2	13 1/2	1 1/4	38	2	F	62	2 1/2	1/16	2	48	2 1/2	1/16	2	133	34
Old Reliable A-1 1/2—1918-20-21	3	1/4	1 1/4	1 1/4									48	2 1/2	1/4	1	48	2 1/2	1/4	1	105	32
Old Reliable B-2 1/2—1918-20-21	3	1/4	1 1/4	1 1/4									54	2	1/4	1	54	2	1/4	1	144	32
Old Reliable C-3 1/2—1918-20-21	3	1/4	1 1/4	1 1/4									60	2 1/2	1/4	1	60	2 1/2	1/4	1	150	32
Old Reliable D-5—1918-20-21	3	1/4	1 1/2	1 1/2									72	3	1/4	1	72	3	1/4	1	156	34
Old Reliable K. L. M.-7—1918-20-21	3	1/4	1 1/2	1 1/2									54	3 1/2	1/4	1	60	4	1/4	1	158	36
Oldsmobile T-1—1921	3	1/16	1 1/4	1 3/16	V	5	1 1/4	11	1 1/4	32 5/8		V	42 1/4	2	1/16	1	41 1/16	2	1/16	1	92 5/8	34
Olympic 2 1/2	3	1/4	1 1/4	1 1/2	V	13	2	12	1 1/4	34	2	F	13 1/2	3 1/2	1/16	2	13 1/2	3	1/16	2	Opt	32 1/2
Oneida A 9-1 1/4	3	1/16	1		V	7 1/2	1 1/4	9 1/2	1 1/4	36	2		48	2 1/2	1/16	2	34	2 1/2	1/16	2	106	34
Oneida B 9-1 3/4	3	1/16	1 1/4		H	9 1/2	1 1/4	9 1/2	1 1/4	38 1/2	2		48	2 1/2	1/16	2	34	2 1/2	1/16	2	114	34
Oneida C 9-2 1/2	3	1/16	1 1/4		H	9 1/4	1 1/4	9 1/2	1 1/4	38 1/2	2		58	2 1/2	1/16	2	43	2 1/2	1/16	2	138	34
Oneida D 9-3 1/2	3	1/16	1 1/4		H	7	1 1/2	9 1/2	1 1/2	40	2		16	4	1/16	4	16	4	1/16	4	157	36
Oneida E 9-5	3	1/4	1 1/4		H	7 1/2	1 3/4	9 1/2	1 1/2	40	2		18	4	1/16	4	18	4	1/16	4	177	38
Packard EC	3	1/4	1 5/8	1 3/4	V	6 1/4	1 1/2	10 3/8	1 1/2	41 1/16	3/4	V	7 11/16	4 3/4	1/16	2	14	2	1/16	4	132	31 1/8
Packard ED	3	1/4	1 5/8	1 3/4	V	6 1/4	1 1/2	10 3/8	1 1/2	43 1/16	3/4	V	9 1/16	4 3/4	1/16	2	18 3/4	3	1/16	4	144	39
Packard EF	3	1/4	1 5/8	1 3/4	V	6 1/4	1 1/2	10 3/8	1 1/2	43 1/16	3/4	V	9 1/16	6 1/2	1/16	2	18 3/4	3 1/2	1/16	4	144	39
Packard EX	3	1/4	1 5/8	1 3/4	V	6 1/4	1 1/2	10 3/8	1 1/2	43 1/16	3/4	V	9 1/16	6 1/2	1/16	2	14	2	1/16	4	132	31 1/8
Paige 54-20-2 1/2	3	1/4		1 3/4		10 1/2	1 1/2	13	1 1/2	37 5/8	1 1/4	F	49 5/8	2 1/4	1/4	2	49 5/8	2 1/4	1/4	2	126	33
Paige 51-18-3 1/2	3	1/4		1 3/4		13	1 1/2	13	1 1/2	37 5/8	2	F	15 5/8	3 3/4	1/4	4	15 5/8	3 3/4	1/4	4	144	35
Paige 52-19-1 1/2	3	1/4		1 1/4		8	1 1/4	12	1 1/4	36	2	F	11 1/2	3 1/4	1/4	4	11 1/2	3 1/4	1/4	4	126	33
Parker F20-2—1920	3	1/16	1 1/4	1 1/2	V	19	1 3/4	16 1/2	1 1/2	38	2	F	10 3/4	5	1/4	2	19	2 1/2	1/4	4	127	33
Parker J20-3 1/2—1920	3	1/16	1 1/4	1 1/2	V	19	1 3/4	16 1/2	1 1/2	38	2	F	10 3/4	5	1/4	2	19	3 1/2	1/4	4	139 1/2	33
Parker M20-5—1920	3	1/16	1 1/4	1 1/2	V	14	1 3/4	18	1 3/4	39 1/2	2	F	10 3/4	5	1/4	2	19	4	1/4	4	145	37
Pierce Arrow-2-X-5	3	1/16	1 1/16	1 3/8	V	16 3/4	2	14 1/4	1 3/8	43 1/2	1 1/2	F	22 1/4	2 1/4	1/4	4	24 1/2	4	1/4	4	125 1/8	34 1/8
Pierce Arrow-3 1/4-W-2	3	1/16	1 1/16	1 3/8	V	11	2	15 1/2	1 3/4	43 1/2	1 1/2	F	9 11/16	6	1/4	2	22 1/4	2 1/4	1/4	4	133 1/4	38 1/8
Pierce Arrow-5-R-10	3	1/16	1 1/16	1 3/8	V	11	2	15 1/2	1 3/4	43 1/2	1 1/2	F	9 11/16	6	1/4	2	20 7/8	4 3/4	1/16	4	139 1/4	38 1/8

Replacement Table—Continued

Name, Model and Tonnage	ENGINE												BRAKE LINING								FRAME	
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length	Width
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Over All
Pittsburgher 2½—1919–20	3	¼	1¼	1¼	V	6	1½	12	1¼	37	1	F	52	2¼	¼	2	52	2¼	¼	2	136	33
Pioneer 59AA–1	3	1¼	1½	⅞	V	13	2	12	2	35	1	F	14	1¾	5/16	4	14	1¾	5/16	4	102	30
Rainier R-8-2	3	1⅜	⅞	⅞	V	5	1½	13	1½	31½	1¼	F	44½	2	¼	1	44½	2	¼	1	.....	34
Rainier R6-1½	3	1⅜	⅞	⅞	V	9¾	1½	14¾	1½	41	1½	F	19	2	¼	2	19	2	¼	2	113	34
Rainier R-19-1	3	1⅜	⅞	⅞	V	8½	1½	14	1½	41	1½	F	19	2	¼	2	19	2	¼	2	100	34
Rainier R11-¾	3	1⅜	⅞	⅞	V	9	1½	14½	1½	42	1½	F	11¼	3	5/16	2	11¼	3	5/16	2	90	34
Ranger TK-22-2	3	¼	1½	1½	H	11¾	1 11/16	10	1¼	33¾	1	F	11½	3¼	5/16	2	11½	3¼	5/16	2	122	32
Reliance 10A-1½—1920–21	4	¼	1¼	⅝	V	10½	2	13½	1⅜	35	2	F	17	2	¼	4	17	2	¼	4	127	32
Reliance 20B-2½—1920–21	4	¼	1¼	⅝	V	10½	2	13½	1⅜	35	2	F	17	2	¼	4	17	2	¼	4	127	32
Reo F—1500-2500-lbs	3	¼	1	1	V	5½	1	5½	1	39 1/16	⅞	F	43	2¼	¼	1	39⅝	2	¼	1	82	30
Republic 10-1-10E-1-1919–20–21	3	¼	1	....	V	12¼	2	6	2	40 5/16	1¼	F	21¼	2½	¼	4	19¾	2¼	5/16	4	.....	34
Republic 11X-1½—1919–20–21	3	¼	1	....	V	12¼	2	6	2	40 5/16	1¼	F	25¼	2½	¼	4	24¼	2¼	¼	2	118	34
Republic 19-2½—1919–20–21	3	¼	1¼	....	V	8	1½	11¾	1¼	32 5/16	1¼	F	25¼	2½	¼	4	24¼	2¼	¼	2	121	34
Republic 20-3½—1919–20–21	3	¼	1¼	....	V	7¼	1½	5½	1¼	36¾	1½	F	55¾	3½	¼	2	30 11/16	4½	¼	1	146	37
Republic 75–¾—1921	3	¼	1	....	V	12	2¼	18½	2¼	31 11/16	1	F	19	2	¼	4	18	2	¼	4	95	31
Riker B3, BB-4	5	¼	....	....	V	9¾	1⅝	8	1¼	49½	1¼	V	7¼	4½	¼	2	20	4	¼	4	150	38
Rowe CW-1½—1918–19–20	3	¼	1¼	⅞	....	10½	1¾	10½	1½	32½	1⅛	F	19	2	¼	8	19	2	¼	8	113	33
Rowe CDW2—1916–20	3	¼	1¼	⅞	....	10½	1¾	10½	1½	32½	1⅛	F	45	2	¼	4	45	2	¼	4	123	33
Rowe GSW3—1918–20	3	¼	1¼	⅞	....	20	1¾	15½	1½	36¼	2	F	51½	2½	¼	4	51½	2½	¼	4	140	33
Rowe HW4—1918–20	3	¼	1¼	⅞	....	20	1¾	15½	1½	36¼	2	F	56½	2½	¼	4	56½	2½	¼	4	146	36
Rowe FW5—1914–20	3	¼	1¼	⅞	....	20	1¾	15½	1½	36¼	2	F	68	3	5/16	4	68	3	5/16	4	153	38¼
Rowe GPW3—1916-17, 1919–20	3	¼	1¼	⅞	....	10	1¼	6	1¾	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	152	33
Rumely A–1½	4	¼	1⅛	1⅛	V	10½	1¾	10½	1¼	37	2	F	18	2	¼	4	18	2	¼	4	122	34
Samson 15–¾	3	¼	1⅛	1⅛	V	6½	1¼	7¾	1¼	35 11/16	11/16	V	37	2	5/16	1	35¾	1¾	¼	1	108¼	39½
Samson 25–1¼	3	¼	1⅛	1⅛	V	6½	1¼	7¾	1¼	37 11/16	11/16	V	43⅜	2	5/16	1	37 5/16	1¾	¼	1	108¼	39½
Sandow G-1—1918–20	3	¼	1	⅞	....	.....	.....	.....	.....	.....	.....	.....	20	2	¼	2	20	2	¼	2	96	34
Sandow CG-1½1918—20	3	¼	1	⅞	....	.....	.....	.....	.....	.....	.....	.....	20	2	¼	2	20	2	¼	2	120	34
Sandow I-2—1918–20	3	¼	1	⅞	....	.....	.....	.....	.....	.....	.....	.....	60	3	¼	1	60	3	¼	1	132	32
Sandow J-2½—1918–20	3	¼	1¼	⅞	....	.....	.....	.....	.....	.....	.....	.....	13½	3½	¼	2	16	3½	¼	2	144	32
Sandow L-5—1918–20	3	¼	1¼	⅞	....	.....	.....	.....	.....	.....	.....	.....	24	4½	¼	2	24	4½	¼	2	144	37
Sandow M-3½—1918–20	3	¼	1¼	⅞	....	.....	.....	.....	.....	.....	.....	.....	18½	4	¼	2	18½	4	¼	2	144	37
Sanford 25-2½—1917–20	3	¼	1¼	1¼	....	.....	.....	.....	.....	.....	.....	.....	51½	2¼	¼	2	51½	2½	¼	2	144	35
Sanford W35-2½—1917–20	3	¼	1¼	1¼	....	.....	.....	.....	.....	.....	.....	.....	56	2½	¼	2	56	2½	5/16	2	145	35
Sanford W50-5—1917–20	3	¼	1¼	1¼	....	.....	.....	.....	.....	.....	.....	.....	69	3	¼	2	69	3	¼	2	145	35
Schacht 2	4	¼	1¼	....	....	.....	.....	.....	.....	.....	.....	.....	8½	3	¼	4	13	3	¼	4	140	35¾
Schacht 3	4	¼	1¼	....	....	.....	.....	.....	.....	.....	.....	.....	8½	3	¼	4	13	3	¼	4	140	35¾
Schacht 4	4	¼	1¼	....	....	.....	.....	.....	.....	.....	.....	.....	8½	3	¼	4	15	4	5/16	4	152	35¾
Schacht 5	4	¼	1¼	....	....	.....	.....	.....	.....	.....	.....	.....	8½	3	¼	4	15	4	5/16	4	152	35¾
Schwartz A–1¼—1921	3	¼	1	⅞	V	9½	2¼	13	2¼	29½	7/16	F	19¾	1¾	¼	4	19⅜	1¾	¼	4	.....	.....
Schwartz BW–1¼	4	¼	1	⅞	H	10	1¾	18	1¼	33½	2	F	19	2	¼	4	19	2	¼	4	120	34
Schwartz CWS-CW-CWL-2¼	4	¼	1¼	⅞	H	10½	2	15	1¼	33½	2	F	48	2¼	¼	2	48	2¼	¼	2	.....	36
Schwartz DWS-DW-DWL-5	4	¼	1½	⅞	H	12½	2	17	1¼	38⅝	2	F	69½	3	¼	2	69½	3	¼	2	.....	36
Selden 1½A—1919–20	3	¼	1	1⅛	V	12	2	.....	.....	41	1¼	F	11 1/16	3¼	¼	4	11 1/16	3¼	¼	4	114	34
Selden 2½A—1920	3	¼	1	1⅛	V	3¾	1¼	12	1¼	31	1½	F	13	3½	¼	4	13	3½	¼	4	134	34
Selden 3½A—1919–20	3	¼	1¼	1⅛	V	9	1¾	5½	1¾	34¼	2	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	153	37½
Selden 5A—1920	3	¼	1½	1⅛	V	7	2	20½	2	40⅜	2	F	17 11/16	4	¼	4	17 11/16	4	¼	4	153	37½
Seneca M-1000	3	¼	1	1	V	13½	2	13½	2	34	¾	F	37¼	1¾	¼	2	35¼	1¾	¼	2	.....	.....
Service 15-1921–¾	3	¼	1	⅞	V	10	1¾	2	1¼	35	2	F	19⅜	1¾	¼	4	19⅜	1¾	¼	4	101½	37⅛
Service 220-1–1919–20	3	¼	1⅛	1⅛	H	10	2	6	1¾	37¾	1	F	12	3¼	¼	2	12	3¼	¼	2	109½	34
Service 31-1½—1919–20	4	¼	1⅛	1 11/16	V	10	2	8	1¼	33	1¼	F	12	3¼	¼	2	12	3¼	¼	2	121	34
Service 36-1½—1919–20	4	¼	1⅛	1 11/16	V	10	2	8	1¼	33	1¼	F	12	3¼	¼	2	12	3¼	¼	2	121	34
Service 51-2½—1919–20	4	¼	1 11/16	1 11/16	V	10	2	8	1¼	33	1¼	F	13½	3½	¼	2	13½	3½	¼	2	131	34
Service 71-3½—1919–20	4	¼	1 11/16	1⅛	V	10	2	8	1¼	33	1¼	F	16	3¾	¼	2	16	3¾	¼	2	150¼	38
Service 76-3½—1919–20	4	¼	1 11/16	1⅛	V	10	2	10	1¼	38¼	1½	F	16	3¾	¼	2	16	3¾	¼	2	145¾	38
Service 101-5—1919–20	4	¼	1 11/16	1⅛	V	10	2	10	1¼	38¼	1½	F	18½	4	¼	2	18½	4	¼	2	145¾	38
Signal NF-1	4	¼	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11	3	¼	4	11	3	¼	4	120	.....
Signal H 1½	3	¼	1⅛	1 11/16	....	.....	.....	.....	.....	.....	.....	.....	12	3¼	¼	2	12	3¼	¼	2	120	34
Signal J-2½	3	¼	1⅛	1 11/16	....	.....	.....	.....	.....	.....	.....	.....	13½	3½	¼	2	13½	3½	¼	2	126	34
Signal M 3½	3	¼	1⅛	1 11/16	....	.....	.....	.....	.....	.....	.....	.....	16	3¾	¼	2	16	3¾	¼	2	168	38
Signal R-5	3	¼	1⅜	1⅞	....	.....	.....	.....	.....	.....	.....	.....	18	4	¼	2	18	4	¼	2	172	38
Standard I-K-1–1½	3	¼	1	1⅛	V	10½	2⅛	13½	1⅛	39¼	1¼	F	10⅞	3	¼	4	10⅞	3	¼	4	120	32
Standard 76-2½–3	3	¼	1¼	1 11/16	V	.....	1⅞	12	1⅛	31¾	1¼	F	13⅛	3½	¼	4	13⅛	3½	¼	4	122	32
Standard 66-3½–4	3	¼	1¼	1 11/16	V	12	2⅛	18	1⅛	36½	1½	F	15⅝	3¾	¼	4	15⅝	3¾	¼	4	144	38
Standard 5K–5–7	3	¼	1½	1 11/16	V	8	2⅜	3½	2⅜	42¼	2	F	17 11/16	4	¼	4	17 11/16	4	¼	4	144	38
Sterling 1½—1920–21	3	¼	1¼	¼	V	11	1½	19	1½	38	1½	F	11¾	3¼	¼	4	11¾	3¼	¼	4	120	33½
Sterling 2—1920–21	3	¼	1¼	¼	V	11	1½	19	1½	38	1½	F	13⅜	3½	¼	4	13⅜	3½	¼	4	120	33½
Sterling 2½—1920–21	3	¼	1¼	¼	V	11	1½	19	1½	38	1½	F	13⅜	3½	¼	4	13⅜	3½	¼	4	138	34
Sterling 3½—1920–21	3	¼	1¼	¼	V	14⅝	1½	22	1½	40½	1½	F	15¾	3¾	¼	4	15¾	3¾	¼	4	144	38
Sterling 5-Worm—1920–21	3	¼	1½	¼	V	11	1½	19	1½	40½	1½	F	17 11/16	4	¼	4	17 11/16	4	¼	4	158	38
Sterling 5-Chain—1920–21	3	¼	1½	¼	V	11	1½	19	1½	40½	1½	F	56½	3½	¼	2	34 11/16	4	¼	1	158	38
Sterling 7½—1920–21	3	¼	1½	¼	V	11	1½	19	1½	40½	1½	F	56½	3½	¼	2	34 11/16	4	¼	1	158	38
Stewart M7-2—1918–20	3	¼	....	1⅛	....	.....	.....	.....	.....	.....	.....	.....	50⅝	2	¼	2	8	5	¼	2	132¾	32
Stewart M15-1—1920	3	¼	....	1	....	.....	.....	.....	.....	.....	.....	.....	41⅜	2	¼	2	22¾	2	¼	1	99½	32
Stewart M9–1½—1918–20	3	¼	....	1	....	.....	.....	.....	.....	.....	.....	.....	48½	2	¼	2	8	5	¼	2	119¼	32
Stewart M10-3½—1918–20	3	¼	....	1⅛	....	.....	.....	.....	.....	.....	.....	.....	60	3	¼	2	8	5	¼	2	139¾	32
Stewart M11-¾—1919–20	3	¼	....	⅞	....	.....	.....	.....	.....	.....	.....	.....	41⅜	2	¼	2	22¾	2	¼	1	77¼	32
Stewart M7X—1920	3	¼	....	1⅛	....	.....	.....	.....	.....	.....	.....	.....	50⅝	2	¼	2	8	5	¼	2	132¾	32
Stewart M10X—1920	3	¼	....	1⅛	....	.....	.....	.....	.....	.....	.....	.....	60	3	¼	2	8	5	¼	2	138	32
Stoughton A-1	4	¼	1	1⅛	V	18	1¼	15	1¼	38½	1¼	F	16	1¾	¼	4	16	1¾	¼	4	88	34
Stoughton B-1½	4	¼	1	1⅜	V	18	1¼	15	1¼	39¼	1½	F	19	2	¼	4	19	2	¼	4	116	34
Stoughton D-2	4	¼	1¼	1⅜	V	8½	1½	15	1¼	42	2	F	45	2	¼	2	45	2	¼	2	116	34
Stoughton F-3	4	¼	1¼	1⅜	V	9½	1¾	15	1¾	42	2	F	52	2¼	¼	2	52	2¼	¼	2	127	36
Success B-2½	.....	.....	1⅜	⅞	.....	.....	.....	.....	.....	.....	.....	.....	55	2¼	¼	1	55	2¼	¼	1	132	32¼
Super-Truck 50—1920	3	¼	1¼	1 11/16	V	19	1¾	19	1½	37½	1⅛	F	51½	2¼	¼	2	51½	2¼	¼	2	135	34
Super Truck 70—1920	3	¼	1¼	1 11/16	V	18½	1¾	19	1½	37½	1⅛	F	55½	2½	¼	2	55½	2½	¼	2	144	34
Super Truck 100—1920	3	¼	1¼	1 11/16	V	6	1¾	19	1¾	42	1⅛	F	68	3	¼	2	51½	3	¼	2	144	34
Superior D-1—1919–20	3	¼	1⅛	1⅛	....	11	2	10	2	39	1	F	45	2¼	¼	2	44	2¼	¼	2	97¾	34
Superior E-2—1919–20	3	¼	1⅛	1 11/16	....	8½	1½	15	1¼	29	1	F	54	2½	¼	2	53½	2½	¼	2	114	34
Tiffin GW-1½—1920–21	3	¼	1¼	1¼	V	.....	.....	.....	.....	.....	.....	.....	46	2	¼	1	46	2	¼	1	114	35
Tiffin MW-2½—1920–21	3	¼	1¼	1¼	V	.....	.....	.....	.....	.....	.....	.....	52	2¼	¼	1	52	2¼	¼	1	138½	32¾
Tiffin PW-3½—1920–21	3	¼	1¼	1¼	V	.....	.....	.....	.....	.....	.....	.....	58	2½	¼	1	58	2½	¼	1	151	35½
Tiffin TW-5—1920–21	3	¼	1½	1½	V	.....	.....	.....	.....	.....	.....	.....	68	3	¼	1	68	3	¼	1	156	38½
Tiffin UW-6—1920–21	3	¼	1½	1½	V	.....	.....	.....	.....	.....	.....	.....	68	3	¼	1	68	3	¼	1	156	38½
Titan 3½—1919	4	¼	1½	1¾	....	.....	.....	.....	.....	.....	.....	.....	60	2¼	¼	2	14	4½	¼	2	144	34
Titan 5-6—1918–20	4	¼	1½	1¾	....	.....	.....	.....	.....	.....	.....	.....	90	2¼	¼	2	14	4½	¼	2	144	34
Titan 2½—1920	4	¼	1¼	1¼	....	.....	.....	.....	.....	.....	.....	.....	54	2¼	¼	2	26	4	¼	1	144	32
Tower J-1½—1920	3	¼	1¼	1¼	....	.....	.....	.....	.....	.....	.....	.....	11¾	3¼	¼	4	11¾	3¼	¼	4	135½	32½
Tower H-2½—1919–20	3	¼	1¼	1¼	....	.....	.....	.....	.....	.....	.....	.....	13⅜	3½	¼	4	13⅜	3½	¼	4	138¾	32½
Tower G-3½—1919–20-21	3	¼	1½	1½	....	.....	.....	.....	.....	.....	.....	.....	15⅝	3¾	¼	4	15⅝	3¾	¼	4	152 11/16	37
Traffic C-4000—1919–20	3	¼	1	⅞	H	10½	2	10½	2	41¼	1¼	F	43½	2½	¼	2	38	1¼	¼	2	120¾	42

Replacement Table—Continued

Name, Model and Tonnage	ENGINE												BRAKE LINING								FRAME	
	Piston Rings		Carburetor			Upper Hose		Lower Hose		Fan Belt			Service				Emergency				Length	Width
	No. per Cyl.	Width	Outlet Diameter	Inlet Diameter	Vertical or Horizontal	Length	Width	Length	Width	Length	Width	Type	Length	Width	Thickness	No. of Pieces	Length	Width	Thickness	No. of Pieces	Back of Driver's Seat	Over All
Traffic 6000-1921	3	1/4	1	1/4	H	10 1/2	2	10 1/2	2	41 1/4	1 1/4	F									120 3/4	34
Traffic Speedboy-1921	3	1/4	1	1/4	H	10 1/2	2	10 1/2	2	41 1/4	1 1/4	F	43 1/2	2 1/2	1/4	2	38	1 3/4	1/4	2	120 3/4	34
Transport 20-1	3	1/4	1	1	V	12	2	12	2	36 1/2	1	F	48 1/2	2	1/4	2	46 1/2	1 1/2	1/4	2	101	34
Transport 30-1 1/2	3	1/4	1	1	V	10 3/4	2	13	2	40 5/8	1 1/4	F	48 1/2	2 1/2	1/4	2	46 1/2	1 1/2	1/4	2	117	34
Transport 50-2 1/2	3	1/4	1 1/4	1 1/4	V	9 1/4	2	10	1 1/4	32 3/4	2	F	10 1/4	3 1/2	1/4	2	48 1/2	2 1/2	1/4	2	123	34
Transport 70-3 1/2	4	1/4	1 1/4	1 1/4	V	12	2	16	1 1/4	35 7/8	2	F	11 7/8	3	1/4	4	58	2 1/2	1/4	2	150	36 1/2
Traylor B-1 1/2	4	1/4	1	....	V	....	....	....	....	38	1	F	50	2	1/4	2	50	2	1/4	2	117	34
Traylor C-2	4	1/4	1 1/4	....	V	....	....	....	....	36	2	F	50	2	1/4	2	50	2	1/4	2	122	34
Traylor D-3	4	1/4	1 1/4	....	V	....	....	....	....	36	2	F	56 1/2	2 1/4	1/4	2	56 1/2	2 1/4	1/4	2	142	34
Traylor E-4	4	1/4	1 1/4	....	V	....	....	....	....	37	2	F	59	2 1/2	....	2	59	2 1/2	....	2	165	35
Traylor F-5	4	1/4	1 1/4	....	V	....	....	....	....	37	2	F	59	2 1/2	....	2	59	2 1/2	....	2	165	35
Triangle AA-3/4—1920	3	1/4	1	1	H	17	2	17	2	34	1	F	22	2 1/2	1/4	1	41	2	1/4	2	94	35
Triangle A-1 1/2—1918-20	3	1/4	1	1	V	14	1 1/4	14 1/2	1 1/4	39 1/4	1 1/2	F	7	4	1/4	2	49	2	1/4	2	126	34
Triangle B-2 1/2—1919-20	3	1/4	1 1/4	1 1/4	V	18	1 1/2	18	1 1/2	39 1/4	1 1/2	F	7	4	1/4	2	52	3	1/4	2	132	34
Triangle C-2—1920	3	1/4	1	1	V	14	1 1/4	14 1/2	1 1/4	39 1/4	1 1/2	F	7	4	1/4	2	52	3	1/4	2	129	34
Triumph HB-2 1/2	4	1/4	....	....	V	9	1 3/4	17	1 1/4	32 1/2	2	F	46	2 1/2	1/4	2	32	2 1/2	1/4	2	120	34 1/2
Triumph HC-2	4	1/4	....	....	V	9	1 3/4	17	1 1/4	32 1/2	2	F	46	2 1/2	1/4	2	32	2 1/2	1/4	2	120	34 1/2
Twin City 2	3	1/4	1 1/4	2	V	11	2	13	1 1/4	36 3/4	2	F	51	3	1/4	2	50	2 1/2	1/4	2	132	33
Twin City 3 1/2	4	1/4	1 1/4	2	V	8	1 5/8	4	1 5/8	36 1/2	2	F	15	3 3/4	1/4	4	15 3/4	3 3/4	1/4	4	156	36
Ultimate A-2—1920	4	1/4	1 1/4	1 5/8	V	11	2	8	1 1/4	34	2	F	45	2	1/4	2	45	2	1/4	2	126	32 1/4
Ultimate AJ2—1920	4	1/4	1 1/4	1 5/8	V	11	2	8	1 1/4	34	2	F	45	2	1/4	2	45	2	1/4	2	126	32 1/4
Ultimate AJL-2-1920	4	1/4	1 1/4	1 5/8	V	11	2	8	1 1/4	34	2	F	45	2	1/4	2	45	2	1/4	2	150	32 3/4
Ultimate B-3—1920	4	1/4	1 1/4	1 5/8	V	11	2	8	1 1/4	34	2	F	51	2 1/4	1/4	2	51	2 1/4	1/4	2	144	32 1/4
Ultimate BL3—1920	4	1/4	1 1/4	1 5/8	V	11	2	8	1 1/4	34	2	F	51	2 1/4	1/4	2	51	2 1/4	1/4	2	192	32 1/4
Union F-2 1/2	3	1/4	1 1/4	1 1/4	V	20	1 3/4	19 1/2	1 1/2	37 3/4	2	F	55	3	1/4	1	50	2	1/4	1	133 1/2	32
Union FW-2 1/2	3	1/4	1 1/4	1 1/4	V	20	1 3/4	19 1/2	1 1/2	37 3/4	2	F	26	4 1/2	1/4	1	52	3	1/4	1	133 1/2	32
Union H-4	3	1/4	1 1/4	1 1/4	V	20	1 3/4	19 1/2	1 1/2	37 3/4	2	F	56 3/4	3 1/2	1/4	1	32	4 1/2	1/4	1	157 1/2	34
Union HW-4	3	1/4	1 1/4	1 1/4	V	20	1 3/4	19 1/2	1 1/2	37 3/4	2	F	26	4 1/2	1/4	1	24	4	1/4	2	157 1/2	34
Union JW-6	3	1/4	1 1/2	2	V	20	1 3/4	19 1/2	1 1/2	41 1/2	2	F	34	4	1/4	1	28	5	1/4	1	190	36
United 1 1/2	....	....	1	1 1/4	H	15	2 1/2	16	1 1/2	37 1/2	2	F	48	2	1/4	1	48	1 1/2	1/4	1	120	33
United-2 1/2	....	....	1 1/4	1 1/4	H	7	2 1/2	12	1 1/2	37 1/2	2	F	49	3	1/4	1	49	2 1/2	1/4	1	Opt	33
United 3 1/2	....	....	1 1/4	1 1/4	H	7	2 1/2	7	1 1/2	37 1/2	2	F	62	3	1/4	1	58	2 1/2	1/4	1	Opt	34
United 5	....	....	1 1/2	1 1/4	H	14 1/2	2 1/2	12	1 1/2	37 1/2	2	F	88 1/2	2 1/4	1/4	1	88 1/2	2 1/4	1/4	1	Opt	38
U.S.N.-1 1/2	3	1/4	1	1/8	H	11 1/2	2	9	1 1/4	37	1 1/4	F	50	2 1/2	1/4	2	46 1/2	1 1/2	1/4	2	120	34
U.S.R.-2 1/2-3	3	1/4	1 1/4	1/8	V	10	1 1/4	9	1 1/4	35	1 1/4	F	46	2 1/4	1/4	2	46	2 1/4	1/4	2	144	34
U.S.S.-3 1/2-4	3	1/4	1 1/4	1/4	V	9	1 1/2	8	1 1/2	37	1 1/4	F	50	2 1/2	1/4	2	50	2 1/2	1/4	2	156	36
U.S.T.-5-6	3	1/4	1 1/2	1/4	V	15	2	13	1 1/2	38 3/4	2	F	62	3	1/4	4	33	4	1/4	1	168	36
Velie 46-1 1/2—1921	3	1/4	1	1/4	V	9 1/2	2 1/4	12 1/4	1 1/2	40	3/4	F	54 1/4	2 1/2	1/4	2	52 1/2	2 1/4	1/4	2	120	31
Vim 29-1 1/2	3	1/4	1/8	....	....	....	....	....	....	30 3/4	1	F	14 1/8	1 1/2	1/4	4	14 1/8	1 1/2	1/4	4	64	30
Vim 30-1 1/2	3	1/4	1/8	....	....	....	....	....	....	30 3/4	1	F	14 1/8	1 1/2	1/4	4	14 1/8	1 1/2	1/4	4	83 1/2	30
Vim 31-1	4	1/4	1	....	....	....	....	....	....	40	1	F	18	2	1/4	4	18	2	1/4	4	92	32
Vim 22-2	4	1/4	1	....	....	....	....	....	....	40	1	F	42 5/8	2	1/4	2	42 5/8	2	1/4	2	120 5/8	34
Vim 23-3	5	1/4	1 1/4	....	....	....	....	....	....	40	1	F	48 1/8	2 1/4	1/4	2	48 1/8	2 1/4	1/4	2	160 1/4	34
Walker M1 1/2	....	....	....	....	....	....	....	....	....	....	....	....	43	2 1/4	1/4	2	14	1 3/4	1/4	4	90	32
Walker K1	....	....	....	....	....	....	....	....	....	....	....	....	45 1/2	2 1/2	1/4	2	16	2	1/4	4	96	32
Walker L2	....	....	....	....	....	....	....	....	....	....	....	....	53 1/4	2 1/2	1/4	2	19	2	1/4	4	120	32
Walker P3 1/2	....	....	....	....	....	....	....	....	....	....	....	....	53 1/4	3	1/4	2	19 1/4	2 1/2	1/4	4	140	35
Walker N5	....	....	....	....	....	....	....	....	....	....	....	....	53 1/4	3	1/4	2	19 1/4	2 1/2	1/4	4	162	35
Walker-Johnson B2 1/2	4	1/4	1 1/4	1 1/4	....	10	2	8	1 1/4	33 1/2	1 1/4	F	13	3 1/2	1/4	4	13	3 1/2	1/4	4	133	32 1/2
Walter S-5	3	1/4	1/2	2	V	10	1 1/2	18	1 1/2	39	1 1/2	F	15	5	1/4	4	57	2 1/2	1/4	4	150	36
Ward LaFrance 2B-2 1/2-3—1920	3	1/4	1 1/4	1 1/2	V	7	1 1/2	16	1 1/2	41 1/2	1 1/2	F	13	3 1/2	1/4	4	13	3 1/2	1/4	4	137 1/2	33
Ward LaFrance 4A-3 1/2-4—1920	3	1/4	1 1/4	1 3/4	V	8 1/2	1 1/2	18	1 1/2	41 1/2	1 1/2	F	15 1/2	3 3/4	1/4	4	15 1/2	3 3/4	1/4	4	170 1/4	37
Ward LaFrance 5A-5-6—1920	3	1/4	1 1/2	1 3/4	V	9 1/4	1 1/2	18	1 1/2	41 1/2	1 1/2	F	18	4	1/4	4	18	4	1/4	4	170 1/4	37
Watson B1	4	1/4	1	1 3/8	V	16 1/8	1 1/4	4	1 1/4	40	1 1/2	F	41	1 3/4	1/4	2	41	1 3/4	1/4	2	90 1/8	30
Watson N-3 1/2	3	1/4	1 1/4	1 1/2	V	16 1/2	1 1/4	3	1 1/4	34	1 1/4	F	62	2 1/2	1/4	2	47	2 1/2	1/4	2	147	37
Watson U-5	3	1/4	1 1/4	1 1/2	V	16 1/2	1 1/4	3	1 1/4	38 1/2	1 1/4	F	15 1/2	3 1/2	1/4	4	15 1/2	3 1/2	1/4	4	.....	36
White Hickory H-1 1/2—1919	3	1/4	1 1/4	....	....	11	2	8	1 1/4	41	5/8	V	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	116 1/4	32
White Hickory H-1 1/2—1920	3	1/4	1 1/4	....	....	11	2	8	1 1/4	41	5/8	V	11 3/4	3 1/4	1/4	4	11 3/4	3 1/4	1/4	4	116 1/4	32
White Hickory E-1—1920	3	1/4	1 1/4	....	....	11	2	8	1 1/4	41	5/8	V	11	3	1/4	4	11	3	1/4	4	92 1/4	32 1/2
White Hickory K-2 1/2—1920	3	1/4	1 1/2	1 1/4	....	9	1 1/2	8	1 1/4	33 1/4	1 1/4	F	13 1/2	3 1/2	1/4	4	13 1/2	3 1/2	1/4	4	150	32
Wichita K-1—1915-20-21	3	1/4	1 1/2	1 1/8	V	18 1/2	1 1/4	12	1 1/4	52 3/4	1 1/2	F	19 1/2	2	1/4	2	19 1/2	2	1/4	4	127 1/2	30
Wichita L-1 1/2—1916-20-21	3	1/4	1 1/2	1 1/8	V	18 1/2	1 1/4	12	1 1/4	52 3/4	1 1/2	F	49	2	1/4	2	49	2	1/4	2	127 1/2	30
Wichita M-2—1915-20-21	3	1/4	1 1/2	1 1/8	V	18 1/2	1 1/4	12	1 1/4	52 3/4	1 1/2	F	49	2	1/4	2	49	2	1/4	2	126 1/2	30
Wichita R-2 1/2—1917-20-21	3	1/4	1 1/2	1 1/8	V	18 1/2	1 1/4	12	1 1/4	52 3/4	1 1/2	F	54	2 1/4	1/4	2	54	2 1/4	1/4	2	126 1/2	30
Wichita RX-2 1/2—1919-20-21	4	1/4	1 1/4	1 1/4	V	5	1 1/4	11	1 1/4	40	1 1/2	F	54	2 1/4	1/4	2	54	2 1/4	1/4	2	130	30
Wichita O-3 1/2—1915-20-21	4	1/4	1 1/4	1 1/4	V	5	1 1/4	11	1 1/4	40	1 1/2	F	56 1/2	2 1/2	1/4	2	56 1/2	2 1/2	1/4	2	152 1/2	36
Wichita S-5—1919-20-21	4	1/4	1 1/4	1 1/4	V	5	1 1/4	11	1 1/4	40	1 1/2	F	66	3	1/4	2	66	3	1/4	2	163 1/2	36
Wilcox AA-1—1920	3	1/4	1	....	....	....	....	....	....	....	....	....	47 1/4	2 1/2	1/4	2	33 1/4	2 1/2	1/4	2	96	34
Wilcox B-1 1/2—1920	3	1/4	1 1/4	....	....	....	....	....	....	....	....	....	47 1/4	2 1/2	1/4	2	33 1/4	2 1/2	1/4	2	132	33
Wilcox C-2 1/2—1920	3	1/4	1 1/4	....	....	....	....	....	....	....	....	....	57 1/2	2 1/2	1/4	2	42 1/2	2 1/2	1/4	2	141	33
Wilcox E-3 1/2—1920	3	1/4	1 1/4	....	....	....	....	....	....	....	....	....	57 1/2	2 1/2	1/4	2	42 1/2	2 1/2	1/4	2	156	33
Wilcox F-5—1920	3	1/4	1 1/2	....	....	....	....	....	....	....	....	....	69 3/8	3 1/2	1/4	2	52	3 1/2	1/4	2	148 1/2	36
Wilson 1 1/2—1919-20	4	1/4	....	1	....	....	....	....	....	....	....	....	39 1/2	1 3/4	1/4	2	39 1/2	1 3/4	1/4	2	120	33
Wilson 2 1/2—1919-20	4	1/4	....	1 1/4	....	....	....	....	....	....	....	....	13 1/4	3 1/2	1/4	4	13 1/4	3 1/2	1/4	4	126	33
Wilson 3 1/2—1919-20	4	1/4	....	1 1/2	....	....	....	....	....	....	....	....	16	3 3/4	1/4	4	16	3 3/4	1/4	4	147	38
Wilson 5—1919-20	4	1/4	....	1 1/2	....	....	....	....	....	....	....	....	18	4	1/4	4	18	4	1/4	4	147	38 1/2
Winther 751-1	3	1/4	1	....	H	15 3/4	2	17	2	36 1/4	1	F	42	2	1/4	2	24	2	1/4	1	102	30
Winther 39-1 1/2	3	1/4	1 1/4	....	V	10	1 3/4	4 1/8	1 1/2	33 1/4	1 1/4	F	50	2 1/4	1/4	2	22 1/2	2 1/4	1/4	1	120	30
Winther 430-1 1/2	3	1/4	1 1/4	....	V	11 1/4	1 1/2	11 1/2	1 1/4	30 5/8	1 1/2	F	50	2 1/4	1/4	2	22 1/2	2 1/4	1/4	1	120	30
Winther 49-2	3	1/4	1 1/4	....	V	11 1/2	1 1/2	6 1/2	1 1/2	37 1/2	1 1/4	F	52	3	1/4	2	50	2 1/4	1/4	2	144	33
Winther 450 2 1/2	3	1/4	1 1/4	....	V	11 1/2	1 1/2	6 1/2	1 1/2	37 1/2	1 1/4	F	52	3	1/4	2	22 1/2	2 1/4	1/4	2	120	30
Winther 50-2 1/2	3	1/4	1 1/4	....	V	17 7/8	1 3/4	8	1 1/2	42 1/2	2	F	52	3	1/4	2	50	2 1/4	1/4	2	58	33
Winther 70-3 1/2	3	1/4	1 1/4	....	V	17 7/8	1 3/4	8	1 1/2	42 1/2	2	F	62	3	1/4	2	60	2 1/2	1/4	2	156	33
Winther 109-5	3	1/4	1 1/2	....	V	21 1/2	1 3/4	8	1 1/2	42 1/4	2	F	93	2 1/4	1/4	2	93	2 1/4	1/4	2	156	33
Winther 140-7	3	1/4	1 1/2	....	V	12	1 1/4	6	1 3/4	42 1/4	2	F	93	2 1/4	1/4	2	93	2 1/4	1/4	2	156	33
Wisconsin 2 (Loganville)	3	1/4	1 1/4	1 1/4	H	17	2	17	2	34	1 1/4	F	58	2 1/2	1/4	2	56 1/2	2 1/4	1/4	2	114	34
Wisconsin 2 1/2 (Loganville)	3	1/4	1 1/4	1 1/4	V	12	1 1/2	10	1 1/4	40	3/4	V	58	2 1/2	1/4	2	56 1/2	2 1/4	1/4	2	120	34
Witt Will N-1 1/2—1919-20	3	1/4	1 1/4	1 1/4	V	8	1 1/2	12	1 1/4	31	1 1/4	F	48	3 1/4	1/4	4	48	3 1/4	1/4	4	Opt	32
Witt Will P-2—1919-20	3	1/4	1 1/4	1 1/4	V	8	1 1/2	12	1 1/4	31	1 1/4	F	52	3 1/2	1/4	4	52	3 1/2	1/4	4	Opt	32
Wolverine J 1	3	1/4	1	1/4	....	....	....	....	....	....	....	....	43 1/2	2 1/2	1/4	1	39	1 1/2	1/4	1	Opt	.....
Wolverine J 1 1/2	3	1/4	1	1/4	....	....	....	....	....	....	....	....	52	3	1/4	1	47	2	1/4	1	Opt	.....
Wolverine J 2	3	1/4	1	1/4	....	....	....	....	....	....	....	....	52	3	1/4	1	47	2	1/4	1	Opt	.....
Wolverine K 2 1/2	4	1/4	1 1/4	1/4	....	....	....	....	....	....	....	....	57	2	1/4	1	54 1/2	2	1/4	1	.....	.....
Wolverine L 3 1/2	4	1/4	1 1/4	1/4	....	....	....	....	....	....	....	....	54	2 1/4	1/4	2	26	4	1/4	1	.....	.....
Yellow Cab M21—3/4	3	1/4	1	1/4	V	7 1/2	2	9 5/8	2	38 1/2	5/8	V	49	2 1/2	1/4	2	45	2 1/2	1/4	2	60	43
Yellow Cab M41-1 1/4	3	1/4	1	1/4	V	7 1/2	2	9 5/8	2	38 1/2	5/8	V	11	3	1/4	4	11	3	1/4	4	92	32
Young 5-1	3	1/4	....	....	....	10 1/2	2	9 1/2	2	....	....	....	12	3 1/4	1/4	2	12	3 1/4	1/4	2	109	32
Young 6-2	4	1/4	1 1/4	....	....	7 1/2	1 1/4	11	1 1/4	36	3/4	F	12 1/4	3 1/4	1/4	2	12 1/4	3 1/4	1/4	2	116 1/2	33
Young 7-3 1/2	4	1/4	1 1/2	....	....	9 1/2	1 3/4	11 1/2	1 1/4	38	3/4	V	16	3 1/2	1/4	2	16	3 1/2	1/4	2	183 1/2	36

KEY OF ABBREVIATIONS

Note: Numerals on This Page Correspond With Numerals at Head of Specification Columns on Pages Following. In All Specifications—O, Own; Op or Opt, Optional

Engine:
Beav—Beaver
Bud—Buda
Cont—Continental
GBS—Golden, Belknap & Swartz
Gr-B—Gray-Beal
Her—Hercules
Hig—Highway
Hin—Hinkley
1 HSp—Herschell-Spillman
LeR—Le Roi
Lib—Liberty
LMF—Light Mfg. & Fdy.
Lyco—Lycoming
Mid—Midwest
Ster—Sterling
Sup-Supreme
TC—Twin City
Vict—Victory
Wau—Waukesha
Wei.—Weidely
Wis—Wisconsin

Valve Arrangement:
H—Overhead
2 L—ELL-Head
T—TEE-Head
S—Sleeve

How Cooled:
A—Air
B—Pump & Thermo
3 C—Centrifugal
G—Gear Pump
T—Thermo-Syphon

Radiator (Make):
BW—B & W
Brm—Brenem
Bus—Bush
Can—Candler
Chic—Chicago
Eag—Eagle
EM—English-Mersick
Eur—Eureka
Fed—Fedders
Flex—Flexo
4 GO—G. & O.
Har—Harrison
Hoo—Hooven
Idl—Ideal
Jam—Jamestown
Kue—Kuenz
Liv—Livingston
Lng—Long
McC—McCord
May—Mayo
Mod—Modine
Per—Perfex
R-T—Rome-Turney
S-W—Sparks-Withington
Spar—Spartan
Spec—Special
Spli—Splitex
Stan—Standard
Whee—Wheeler

Radiator (Type):
5 C—Cellular
H—Honeycomb
PT—Plain Tube
ZZT—Zig Zag Tube
FIN—Fin Tube

Lubrication:
FS—Force and Splash
6 F—Force Feed
S—Splash

Carburetor:
B&B—Ball & Ball
Bent—Bennett
Cart—Carter
Eag—Eagle
Ens—Ensign
Flch—Fletcher
Holl—Holley
John—Johnson
King—Kingston
Mar—Marvel
7 Mas—Master
Mill—Miller
Rayf—Rayfield
Scoe—Scoe
Strm—Stromberg
Shk—Shakespeare
Sheb—Schebler
Stew—Stewart
Till—Tillotson
Zen—Zenith

Fuel Feed:
G—Gravity
8 P—Pressure
V—Vacuum

Governor:
Con—Continental
Del—Delaney
Dup—Duplex
Hin—Hinkley
Mer—Merrill
McC—McCanna
9 Mon—Monarch
Mue—Mueller
Phar—Pharo
Pier—Pierce
Rug—Ruggles
Sim—Simplex
Wau—Waukesha

Clutch (Make):
B. B.—Borg & Beck
B-Li.—Brown-Lipe
Covt.—Covert
Det.—Detlaff
Full.—Fuller
10 D. G.—Detroit Gear & Mach.
Hart—Hartford
HS—Hele-Shaw
M-E—Merchant & Evans
Munc.—Muncie
M-P—Muncie Products
T-D—Twin Disc
W-C—Warner Corporation
W-Gr—Warner Gear

Clutch (Type):
D—Disc
C—Cone
11 DP—Dry Plate
WP—Wet Plate
WD—Wet Disc
DD—Dry Disc
Fr—Friction

Ignition System:
Amr—American Swiss
Apo—Apollo
AtK—Atwater-Kent
AuL—Auto-Lite
Bos—Bosch
Ber—Berling
Con—Connecticut
Del—Delco
Eis—Eisemann
Kin—Kingston
12 KW—K. W. Ignition Co.
Lor—Louraine
NE—North East
POL—Prest-O-Lite
Rm—Remy
Sim—Simms
Spl—Splitdorf
Tea—Teagle
Wag—Wagner
Wes—Westinghouse

Engine Starter:
AC—Allis-Chalmers
AK—Atwater Kent
AL—Auto-Lite
Bj—Bijur
Bos—Bosch
13 DL—Delco
Dy—Dyneto
GD—Gray & Davis
LN—Leece-Neville
NE—North East
RE—Remy
Wg—Wagner
USL—U. S. L.
W—Westinghouse

Gearset:
B-Li—Brown-Lipe
Cott—Cotta
Covt—Covert
D-Sea—Driggs-Seabury
Det—Detroit
Dun—Dundore
14 Durst—Durston
Full—Fuller
G-Le—Grant Lees
MM—Mechanics Mach. Co.
Munc—Muncie
M-P—Muncie Products
Rock—Rockford
W-C—Warner Corporation
W-Gr—Warner Gear

Location of Gearset:
15 A—Amidships
R—Rear
U—Unit with engine
J—Unit with jackshaft

Universal:
A-B—Easton Mch. Co.
16 Acm—Acme
Arv—Arvac
Bear—Bearings Co.
Bld—Blood Brothers
Det—Detroit
Dit—Ditwiler
Eas—Easton
Flex—Flexite
Hart—Hartford
KB—Kinsler-Bennett
Mech—Mechanics
M-E—Merchant & Evans
Nor—Norwalk
Pet—Peters
Sned—Snead
Spic—Spicer
Ster—Sterling
Ther—Thermoid
UM—Universal Machine
UP—Universal Products

Springs:
All—Alloy Steel
Am—Am. Auto Parts
Bea—Beans
Cham—Champion
Coop—Cooper
Del—Delany
Det—Detroit
GC—Garden City
Har—Harvey
Hig—Higgins
IC—Iron City
Jax—Jaxon
Kal—Kalamazoo
17 Lah—Laher
Lig—Liggett
Mar—Maremont
Math—Mather
Mer—Merrill
Nat—National
Pen—Penn
Per—Perfection
Row—Rowland
Shel—Sheldon
SP—Spring Perch
Stan—Stan-Par
Ster—Sterling
Tem—Temme
Tut—Tuthill
US—United States
Wis—Wisconsin

Final Drive:
B—Bevel Gear
C—Chain
18 I—Internal Gear
N—Concentric Spur
P—Spur
R—Double Reduction
S—Spiral Bevel
W—Worm

Rear Axle (Make):
Amr—American
Badg—Badger
Col—Columbia
19 Stan—Chicago
Cl—Clark
Dun—Dunkirk
Eat—Eaton, Stan-Par
Hind—Hindley
Ir.M—Iron Mt.
Keno—Kenosha
Stn—Stanweld
Rock—Rockford
Russ—Russel
Sals—Salisbury
Sav—Savage
Shel—Sheldon
Thom—Thomson
Tim—Timken
Torb—Torbensen
W-M—Weston-Mott
US—United States
Vul—Vulcan
Walk—Walker
Wis—Wsconsin

Rear Axle (Type):
Flot—Floating
20 ½-Fl—Semi-Floating
¾-Fl—¾-Floating
D—Dead

Steering Gear:
CAS—C. A. S. Products Co.
Dit—Ditwiler
Gem—Gemmer
Jac—Jacox
21 Lav—Lavine
M-P Muncie Products
Ros—Ross
W-C—Warner Corporation
Woh—Wohlrab

Wheels:
Arc—Archibald
AuW—Auto Wheel
Bim—Bimel
Cla—Clark
C&M—Crane & McMahon
Day—Dayton
Det—Detroit
E&O—Eberly & Oris
Hay—Haynes
Hoo—Hoopes Brothers
Jon—Jones
22 Kel—Kelsey
Mot—Motor Wheel
Mut—Mutual
Nor—Northern
Pru—Prudden
Roy—Royer
Rus—Russell
Sal—Salisbury
Sch—Schwartz
Smi—Smith
Sta—Stanwell
StM—St. Mary
Stn—Standard
Wal—Walker
Wan—Wayne
W-L—Waterhouse & Lester
Wes—Western Wheel Co

Rim Equipment:
Bak—Baker
Det—Detroit
23 Fir—Firestone
Gdy—Goodyear
Jax—Jaxon
Kel—Kelsey
Ken—Kennedy

Commercial Car Specifications—Corrected Monthly

The Specifications, Chassis Prices, Etc., Are Corrected Each Month From Data Supplied Direct by the Makers. Gasoline Tractor-Trucks Will be Found at the End of Gasoline Commercial Cars

See Also Replacement Table in "Service and Repair Departments." Truck Frame Dimensions Are Included in Replacement Table

(Where prices are not given it is because we have been unable to get them from authoritative sources)

*** An asterisk in front of the model name indicates that corrections have been made somewhere in the specifications since the previous month**

Trade Name and Model	Chassis Price	ENGINE DETAILS: Make and Model Number 4 Cylinder unless otherwise noted	Bore and Stroke	N. A. C. C. Horsepower	Valve Arrange't	How Cooled	Radiator (Make)	Radiator (Type)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Clutch (Make)	Clutch (Type)	Ignition System	Engine Starter	GEARSET: Make	Location	Speeds	Universal (Make)	Springs (Make)	REAR AXLE: Final Drive	Make	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight	Wheelbase	Pr. Cent of Weight on Rear Wheels
1000 Pounds		1			2	3	4	5	6	7	8	9	10	11	12	13	14	15		16	17	18	19	20			21			22	23			
Dodge Brothers	885	Own	3 7/16x4 1/2	24	L	C	McC	PT	FS	Stew	V	.....	Own	DD	Own	NE	Own	U	3	Own	.....	B	Own	Flot	4.1	19.4	Own	32x4*	32x4*	Kel	Kel	1990	114	66.5
Dort	685	Lyc	3 1/2x5	19.6	L	T	.....	.....	S	Cart	V	.....	.....	C	Con	Bos	.....	U	3	.....	.....	S	Timk	3/4 Fl	.....	.....	.....	31x4*	31x4*	.....	.....	.....	105	.....
*Seneca M.	920	LeR	3 1/16x4 1/2	15.6	L	T	Kue	C	S	Sheb	V	.....	B.B.	D	Con	AC	W-Gr	U	3	UM	Math	S	Peru	Flot	4.75	14.45	Dit	30x3 1/2*	30x3 1/2*	Day	Jax	1700	108	80
Vim 29	1050	Own	3 1/16x4 1/2	15.6	L	T	McC	Fin	FS	Zen	G	.....	B.B.	DD	Wes	W	Own	U	3	Spic	Shel	W	Own	.....	5.5	.....	CAS	31x4*	31x4*	Hoo	Fir	2175	108	....
Vim 30	1175	Own	3 1/16x4 1/2	15.6	L	T	McC	Fin	FS	Zen	G	.....	B.B.	DD	Wes	W	Own	U	3	Spic	Shel	W	Own	.....	5.5	.....	CAS	32x4 1/2*	32x4 1/2*	Hoo	Fir	2290	127	....
1500 Pounds																																		
Acason Fast	.....	Own	3 3/4x5	22.5	L	...	.....	C	F	Sheb	V	.....	Full	D	Eis	W	Full	U	3	Bld	Det	W	Timk	1/2 Fl	6.25	25	Ros	34x5*	34x5*	Bim	.....	3080	142	....
*Acme G	.....	Cont N	3 3/4x5	22.5	L	T	GO	C	FS	Rayf	V	Dup	B.B.	DP	Eis	GD	Cott	U	3	Bld	Det	W	Timk	1/2 Fl	6.2	24.8	Ros	35x5*	35x5*	Bim	.....	3050	129	50
Bowman L	915	Own	3 1/2x5	19.6	T	...	.....	C	F	Sheb	V	.....	BB	D	Con	AC	.....	...	3	Spic	Own	I	.....	D	.....	.....	Dit	33x4*	33x4*	.....	.....	2700	114	....
Brockway E	.....	Buda WU	3 3/4x5 1/2	22.5	...	T	Lng	Fin	FS	Strm	V	.....	W-Gr	DD	Rm	RE	W-Gr	U	3	Spic	Row	S	Col	3/4 Fl	5.1	25.	Gem	35x5*	35x5*	.....	Fir	3450	135	70
Chevrolet G	745	Own	3 11/16x4	21.7	H	B	Har	...	FS	Zen	...	...	...	C	Rm	AL	M-P	...	3	Own	.....	S	.....	1/2 Fl	.....	.....	M-P	31x4*	34x4 1/2*	.....	Jax	2167	120	....
Clydesdale 18	1890	Cont	3 3/4x5	22.5	L	T	Own	PT	FS	Zen	V	Own	B-Li	DD	Eis	Bj	B-Li	U	3	Spic	Stan	W	Timk	1/2 Fl	5	16.6	Ros	34x5*	34x5*	.....	.....	3200	136	64
*Garford 15	.....	Buda MU	3 5/16x5 1/2	21	L	C	Lng	PT	F	Strm	G	.....	...	DD	AtK	AK	Own	U	3	Spic	Per	W	Timk	1/2 Fl	6.25	.....	Gem	34x5*	34x5	.....	.....	3500	132	....
Globe D-20	1495	Sup S4	3 3/16x5	18.2	L	T	Fed	C	S	Strm	V	.....	B.B.	D	Del	DL	W-Gr	U	3	Nor	Per	I	Col	D	6.8	.....	Gem	33x4 1/2*	33x4 1/2*	Bim	Fir	2600	120	50
H. R. L.-L	2200	H-Sp 7000	3 1/2x5	19.6	L	T	Fed	Fin	F	Zen	V	.....	Own	DP	Bos	GD	Covt	U	3	Spic	Shel	W	Wis	1/2 Fl	6.2	22.	Ross	34x4 1/2*	35x5*	Sch	Gdy	3300	134	....
Internat'l Speed Truck S.	1500	Lyco-Int'l	3 1/2x5	19.6	L	T	Lng	Fin	FS	Ens	G	.....	Mun	DP	Con	AL	Mun	U	3	Sned	Stan	I	Torb	D	6.3	.....	CAS	34x5*	34x5*	Opt	.....	2600	124	50
Kearns 3/4	1600	H-Sp. 7000	3 1/2x5	19.6	L	T	Own	H	FS	Zen	V	Pier	B.B.	DD	Ber	Dy	G-Le	U	3	M-E	Math	I	Torb	D	5.3	24.	Lav	32x4 1/2*	32x4 1/2*	.....	Fir	2000	118	65
Napoleon 7	1350	H-Sp	3 1/2x5	19.6	H	T	Own	H	F	Sheb	G	.....	B.B.	D	Eis	GD	MM	U	3	UP	Math	I	Torb	D	5.1	.....	Lav	33x4*	33x4*	Roy	Fir	2800	121	....
Rainier R11	1990	Cont-N	3 1/2x55	19.6	L	T	Har	H	FS	Zen	V	Mon	B-Li	DP	Eis	.....	B-Li	U	3	Hart	Per	W	Timk	1/2 Fl	7.2	23.9	Lav	35x5*	35x5*	.....	Fir	2350	125	80
Republic 75	1250	Lyco KB	3 1/2x5	19.6	L	T	Own	C	FS	Strm	V	.....	Own	DD	AuL	AL	Own	U	3	Spic	Math	I	Torb	D	5.38	15.06	Jac	32x4 1/2*	32x4 1/2*	Mot	Fir	2650	124	....
*Samson 15	.....	Own	3 11/16x4	21.8	H	C	.....	Pt	S	Zen	G	Mon	Own	D	Rm	AL	Own	A	3	Own	Own	S	Own	.....	6.33	21.02	Own	32x4*	32x4*	Own	.....	2300	118	46
Stewart 14	1395	.....	3 5/16x5 1/2	21	L	C	Bus	PT	F	Zen	G	.....	.....	DP	Rm	.....	.....	U	3	.....	Det	S	Cl	D	5.5	16.99	Ros	32x4 1/2*	32x4 1/2	Way	Fir	3090	123	70
Stoughton C	1240	.....	3 1/2x5	19.6	L	T	.....	Fin	FS	Strm	G	.....	.....	DP	Wes	W	Own	...	...	Ther	.....	B	.....	.....	5.87	23.5	.....	34x4 1/2*	34x4 1/2*	.....	.....	2480	131	....
Triangle AA	1385	H-Sp	3 3/4x5	16.9	L	T	Per	ZZT	FS	Strm	G	.....	Full	DD	NE	NE	Full	U	3	UP	Det	I	Cl	D	6.75	20.	Gem	34x4 1/2	34x4 1/2	Hay	Fir	2600	115	60
*Watson B	.....	Wau BUX	3 3/4x5 1/4	22.5	L	P	GO	C	FS	John	G	Wau	B-Li	DP	Con	D	B-Li	U	3	M-E	Shel	W	Emp	1/2 Fl	6.2	20.7	Lav	35x5	35x5	Hoo	Fir	2900	128	60
White 15	2400	Own	3 3/4x5 1/2	22.5	L	C	.....	C	FS	Own	G	.....	Own	D	.....	.....	Own	A	4	Own	.....	B	Own	1/2 Fl	.....	.....	Own	34x5*	34x5*	.....	Fir	3200	133	....
*Yellow Cab M-21-3/4	2050	Cont N-3 3/4	3 3/4x5	22.5	L	T	Lng	Fin	FS	Zen	G	.....	B-Li	DD	Bos	.....	B-Li	U	3	Spic	Math	B	Timk	.....	4.9	16.31	Gem	33x4 1/2*	33x4 1/2*	Stn	Fir	2400	117	65
1 Ton																																		
Acason R	.....	Wau B.U.X.	3 3/4x5 1/4	22.5	L	P	Can	C	S	Sheb	V	Wau	Full	.....	Eis	.....	Full	U	4	Bld	Det	W	Timk	1/2 Fl	7.20	34.5	Ros	36x3 1/2	36x5	Bim	Opt	3650	142	....
*Acme B	.....	Cont N	3 3/4x5	22.5	L	T	GO	C	FS	Rayf	V	Dup	B.B.	DP	Eis	GD	Cott	U	3	Bld	Det	W	Timk	1/2 Fl	7.2	28.8	Ros	34x3 1/2	34x5	Bim	.....	3406	129	50
Apex G	1450	Lyc KB	3 1/2x5	19.6	L	T	GO	C	S	Strm	V	.....	B.B.	DP	AuL	AL	Mun	U	3	Bld	Det	I	Torb	D	6.5	.....	Lav	33x5*	33x5*	Roy	Fir	2450	130	70
*Armleder 20	.....	Buda CTU	3 3/4x5 3/4	22.5	L	P	Own	Fin	F	Zen	V	.....	Full	DD	Bos	W	Full	U	3	Spic	Math	W	Timk	Flot	7.25	29	Ros	34x3 1/2	34x5	StM	.....	4200	148	....
Atlas Merchant's Dispatch	1185	Lyco	3 1/2x5	19.6	L	T	Own	H	S	Strm	...	.....	B.B.	DD	AtK	Bj	Own	...	3	Ster	IC	W	Own	1/2 Fl	6	16.8	CAS	32x4 1/2*	32x4 1/2*	.....	.....	2650	130	70
Avery	.....	Own 6	3 x4	21.6	L	T	Own	C	S	Strm	V	Own	Own	DP	KW	W	Own	U	3	Pet	Math	I	Torb	D	8	26.66	Ros	34x5*	34x5*	StM	Gdy	2800	129	73
Bell M	1495	Buda	3 5/16x5 1/2	21	L	C	Chic	PT	F	Zen	V	.....	B.B.	DP	Eis	.....	Mun	U	3	Ther	Det	W	Ir-M	.....	7.2	.....	Dit	35x5	35x5	Bim	Fir	2500	126	65
Belmont	.....	GBS-SMG	3 3/4x4 3/4	22.5	L	T	GO	.....	S	Zen	G	.....	B.B.	.....	Con	Dy	.....	U	3	Ster	.....	B	.....	3/4 Fl	5.2	15.75	Lav	31x4*	31x4*	E-O	Stn	2000	113	60
Bessemer	.....	Cont N	3 1/2x5	19.6	L	T	.....	C	FS	Strm	G	.....	Full	DD	Bos	.....	Full	U	3	Arv	Per	I	Torb	D	7.1	20.25	Ros	34x3 1/2	34x4	Sch	Fir	2910	124	57
Birch I	1285	Vict	3 1/2x5	19.6	I	T	Chic	PT	FS	Strm	G	.....	Full	DD	Con	.....	Full	U	3	UM	.....	I	Cl	D	.....	.....	Lav	32x3 1/2*	32x4*	.....	.....	3200	132	....
Chevrolet T	1125	Own	3 11/16x5 1/4	21.7	H	C	Har	...	FS	Zen	V	Mon	...	C	Rm	AL	M-P	...	3	Arv	.....	W	Timk	1/2 Fl	.....	.....	M-P	33x4*	34x4 1/2	.....	Jax	2840	125	....
*Clydesdale 20	2385	Cont	3 3/4x5	22.5	L	T	Own	PT	FS	Zen	V	Mon	Full	DP	Eis	Bj	B-Li	U	3	Spic	Stan	W	Timk	1/2 Fl	6.2	20.4	Ros	34x5*	34x5*	.....	.....	3400	136	67
Collier 18	.....	Cont N	3 1/2x5	19.6	T	P	Lng	PT	S	Zen	V	Mon	Full	DP	Eis	.....	Full	U	3	UP	Math	W	Timk	1/2 Fl	7.75	31	Ros	34x4	34x5	Bim	Fir	3210	140	70
*Corbitt H-22	1480	Cont N 3/4	3 3/4x5	22.5	L	T	McC	Fin	FS	Strm	V	.....	B-Li	DD	Eis	.....	B-Li	U	3	Hart	Shel	W	Shel	1/2 Fl	5.5	19.	Ros	34x3 1/2	34x4	Bim	Fir	3100	130	75
Day Elder A	1600	Cont N	3 3/4x5	22.5	L	T	Bus	Fin	FS	Zen	G	.....	Covt	DD	Eis	.....	Covt	U	3	Hart	IC	W	Shel	1/2 Fl	7.8	28.55	Gem	34x3 1/2*	34x4*	Jon	Fir	3250	128	70
Dearborn E (Speed)	1600	Buda MU	3 5/16x5 1/2	21	L	C	Chic	PT	F	Strm	V	.....	Full	DP	Bos	Bos	Full	U	3	Hart	.....	W	Wis	1/2 Fl	6.2	18.6	Dit	35x5*	35x5*	.....	Fir	3280	133	65
Defiance G	1695	Hig	3 3/4x5	22.5	L	T	Per	C	FS	Strm	V	.....	B.B.	D	Eis	AL	G-Le	U	3	Arv	Det	B	Eat	.....	5.5	.....	Own	35x5*	35x5*	StM	Fir	2700	128	....
*Denby 31	1625	Cont	3 1/2x5	19.6	L	P	Lng	PT	FS	Strm	G	.....	Full	DD	Eis	RE	Full	U	3	UP	Det	B	Col	1/2 Fl	5.85	23.46	Ros	35x5*	35x5*	Mot	Fir	2840	130	73
Dependable Dispatch A	1750	Buda MU	3 5/16x5 1/2	21.	L	T	Lng	Fin	F	Zen	V	Mon	B.B.	DD	Spl	AL	Det	U	3	Acm	Per	W	Timk	1/2 Fl	6.25	20.55	Ros	35x5*	36x6*	Bim	Fir	4000	134	75
Diehl A	.....	Cont N	3 1/2x5	19.6	L	C	T	.....	H	FS	Zen	G	.....	B.B.	.....	Sim	.....	Durs	...	3	KB	Mar	I	Torb	D	5.3	.....	Ros	34x4 1/2*	35x5*	Sch	Fir	2400	115	90
Earl 40	1285	Own 40	3 7/16x5 1/4	18.9	L	T	SW	ZZT	FS	Scoe	V	.....	B.B.	DP	Con	AL	Own	U	3	Own	Math	S	Own	1/2 Fl	4.66	.....	CAS	32x4*	32x4*	Hay	Jax	1600	112	50
*Federal SD	1800	Cont J-4	3 3/4x5	22.5	L	T	Own	Fin	F	Zen	V	Phar	B.B.	DP	Eis	.....	Own	A	3	Spic	Math	W	Timk	1/2 Fl	7.2	20.65	Gem	35x5*	36x6*	Det	Det	3600	132	65
Ford T	445	Own	3 3/4x4	22.5	L	T	Own	Fin	S	Opt	G	.....	Own	WD	Own	.....	Own	U	2	Own	Own	W	Own	1/2 Fl	Opt	19.9	Own	30x3 1/2*	32x4 1/2	.....	.....	1380	124	....
Forschler A	.....	Cont N	3 1/2x5	19.6	L	C	EM	...	FS	Zen	...	Dup	Full	.....	Bos	Op	Full	...	3	Hart	Own	W	Shel	.....	.....	.....	Ros	34x3	34x4	.....	.....	3450	120	....
Fulton A	1750	H-Sp-7000	3 1/2x5	19.6	L	...	Liv	H	FS	Cart	G	.....	DP	B.B.	Ber	W	Spic	Row	B	Col	.....	B	Col	3/4 Fl	6.8	.....	Lav	35x5	35x5	Hoo	Fir	2800	130	66
G. M. C. K-16	1495	Own	3 1/2x5 1/2	19.6	L	B	Own	Fin	F	Mar	G	Own	Own	DD	Eis	Own	Own	U	3	UM	Det	B	Own	3/4 Fl	6	21.9	Own	34x5*	34x5*	Kel	.....	3500	132	66

Gramm Bernstein 10 Speed T	1365	Lyco	3½x5	19.6	L	T	Own	Fin	S	Strm	G	.....	B.B.	DP	Con	RE	.....	U	3	Own	Per	B	Sals	¾Fl	5.75	21	.....	33x5*	33x5*	.....	Fir	2875	129	90
Higrade A18	2100	Cont N	3½x5	19.6	L	T	Per	PT	FS	Zen	V	Dup	Full	DD	Sim	AL	Full	U	3	Bld	Per	W	Shel	.....	7.7	22.75	Lav	35x5	35x5	Det	Fir	2700	115	66
Independent B (Iowa)	1665	Cont N	3½x5	19.6	L	C	GC	PT	FS	Strm	V	.....	Full	DD	Bos	.....	Full	U	3	Bld	GC	I	Russ	D	.....	......	Lav	34x3	34x4	StM	Fir	3480	135	75
International 21	1750	Own	3½x5¼	19.6	L	C	Own	Fin	FS	Ens	G	Own	Own	DP	Bos	Own	Own	A	3	Own	.....	I	Own	D	7	25.	Own	36x3½	36x3½	Own	.....	3030	115	50
Kissel Express	1585	Own 80000	3⅞x5½	24.1	L	C	McC	PT	S	Strm	V	.....	W-Gr	DP	Rm	.....	W-Gr	U	3	Spic	Math	W	Timk	Flot	5.17	18.9	Jac	34x5*	34x5*	StM	.....	3780	140	68
Kleiber AA	......	Cont C-4	4⅛x5¼	27.2	L	C	Per	C	...	Strm	G	Pier	.....	DD	Bos	.....	B-Li	U	3	Spic	.....	W	Timk	¾Fl	7.1	31.	Ros	34x3½	34x5	W-L	.....	4200	130	75
*Luedinghaus C	1695	H-Sp	3½x5	19.6	L	T	Own	PT	FS	Sheb	G	.....	B.B.	D	Wei	W	G-Le	U	3	Spic	Tut	W	Wis	½Fl	6.2	18.6	Lav	35x5*	35x5*	StM	.....	2850	130	75
*Menominee HT	......	Wis CAU	3¾x5	22.5	L	C	Own	Fin	FS	Strm	G	Mon	Det	DP	Eis	Opt	Cott	U	3	Spic	Tut	W	Wis	.....	7.75	28.52	Ros	34x3½	36x5	Stn	Fir	3525	130	74
Napoleon 9	1535	Vict	3½x5	19.6	H	T	Own	PT	F	Sheb	G	.....	Full	DD	Con	AL	Full	U	3	Bld	Math	I	Torb	D	6.1	18.1	Lav	35x5*	35x5*	Roy	Fir	3200	133	65
Nash 2018	1895	Own-4	3¾x5¼	22.5	L	C	.....	PT	F	Strm	G	Sim	B.B.	DP	Eis	AL	.....	U	3	Own	Har	I	CL.	D	6.8	21.85	Lav	34x3	34x4	AuW	.....	3400	130	67.5
Norwalk	1695	Lyco K	3½x5	19.6	L	T	Stan	C	FS	Zen	V	.....	B.B.	D	Del	Dy	G-Le	...	3	UM	Stan	W	Stan	¾Fl	7.75	......	CAS	34x3½	34x4	E&O	Fir	2940	130	90
Oldsmobile	1095	Own	3 11/16x5¼	21.7	H	P	Own	C	FS	Zen	V	.....	Own	D	Rm	AL	W-Gr	U	3	Spic	.....	I	Torb	D	6.5	22.8	Jac	35x5*	35x5*	AuW	Jax	2580	128	73
*Pioneer AA, (Chicago)	1550	GBS	3¾x4¼	22.5	L	T	Own	H	F	Zen	V	.....	DG	D	Bos	AL	G-Le	U	3	Ther	GC	W	IrM	¾Fl	6.1	25.1	Wol	32x4½*	32x4½*	Bim	Fir	2500	132	80
Rainier R-19	2150	Cont N	3½x5	19.6	L	T	Har	H	FS	Zen	V	Mon	B-Li	DP	Eis	.....	B-Li	U	3	Hart	Per	W	Shel	.....	7.8	......	Lav	34x3	34x4	.....	Fir	2950	133	80
*Republic 10	1395	Cont N 3¾	3¾x5	22.5	L	T	Own	C	FS	Strm	G	Rug	Full	DD	Bos	.....	Full	U	3	Hart	Math	I	Torb	D	7.15	20	Jac	34x3	34x4	Nor	Fir	2800	124	....
*Republic 10-E	1795	Cont N-3¾	3¾x5	22.5	L	T	Own	C	FS	Strm	G	.....	Full	DD	Bos	.....	Full	U	3	Hart	Math	I	Torb	D	6.28	25.12	Jac	35x5*	35x5*	Nor	Fir	2900	124	....
Sandow G	2295	Cont N	3½x5	19.6	L	T	.....	Fin	FS	Strm	G	.....	.....	DD	Eis	.....	Full	U	3	Spic	GC	W	Shel	.....	7.8	23.1	Ros	34x3½	34x5	Stn	.....	3000	120	70
*Signal NF	2275	Cont J4	3¾x5	22.5	L	C	McC	Fin	FS	Strm	G	Pier	B-Li	DP	Eis	.....	B-Li	A	3	.....	.....	W	Timk	½Fl	7.2	......	Ros	34x5*	36x6*	Kel	.....	3550	132	....
Southern 10	2090	Buda WU	3¾x5⅛	22.5	L	T	R-T	PT	S	Zen	...	Pier	Full	DD	Bos	.....	Full	U	3	.....	Shel	W	Shel	.....	.....	......	Ros	35x5	35x5	.....	.....	.....	130	60
*Standard I-K	1600	Cont N	3¾x5	22.5	L	C	Lng	Fin	F	Strm	G	Mon	B-Li	DD	Eis	.....	B-Li	U	3	Spic	Per	W	Timk	½Fl	7.2	23.97	Ros	34x3½	34x5	.....	Opt	3466	134	71.5
*Stewart 15	1875	Buda MU	3⅝x5⅛	21	L	C	Bus	PT	F	Zen	G	.....	Full	DP	Eis	Dy	Full	U	3	Spic	Det	I	Cl	D	6.7	26.8	Ros	35x5*	35x5*	Way	Fir	3200	130	70
Stoughton A	1995	Wau Bux	3¾x5¼	22.5	L	C	Own	Fin	FS	Strm	G	Wau	B-Li	DD	Eis	.....	B-Li	U	3	Ther	Shel	W	Shel	½Fl	6	24	Lav	35x5*	35x5*	Bim	Gdy	3300	130	....
*Superior D	1650	Cont N-¾	3¾x5	22.5	L	T	Idl	C	FS	Strm	V	Pier	Full	DD	Eis	.....	Full	U	3	Arv	Tut	I	Torb	D	7.1	20.7	CAS	35x5*	35x5*	Sch	Fir	2950	124	75
Transport 20	1395	Buda WU	3¾x5⅛	22.5	L	T	Mod	C	FS	Strm	G	Sim	Full	DD	Eis	.....	Full	U	3	Ther	Det	I	Cl	D	7.2	21.8	Jac	34x3½	34x4	.....	Fir	3070	130	70
Ursus T 30	2050	Buda MU	3⅝x5⅛	21.	L	...	.....	PT	...	Strm	...	.....	B-Li	DP	Wes	W	B-Li	...	3	Ther	.....	W	Timk	Flot	.....	......	Ros	34x5*	34x5*	Roy	Fir	.....	132	....
Vim 31	1975	Her-CU-2	3¾x5⅛	22.5	L	P	McC	Fin	F	Zen	G	.....	B-Li	D	Spl	W	B-Li	U	3	Spic	Shel	W	Shel	.....	6.5	......	Gem	35x5*	35x5*	Hoo	Fir	3790	125	....
White Hickory E	......	Cont N-¾	3¾x5	22.5	L	C	Chic	Fin	FS	Strm	V	Sim	Full	DD	Eis	.....	Full	U	4	M-E	Shel	W	Timk	½Fl	7.2	21.6	Lav	34x5*	34x5*	Bim	Fir	3165	124	68
*Wichita K	2300	Wau-BX	3¾x5¼	22.5	L	G	.....	PT	F	Strm	G	Wau	Own	C	Wag	.....	B-Li	A	4	Own	Det	W	Shel	½Fl	7.8	40.56	Ros	36x3	36x4	Bim	.....	3650	144	80
*Wilcox AA	......	Buda	3¾x5½	22.5	L	D	.....	PT	S	Strm	...	Dup	B-Li	DD	Bos	.....	B-Li	U	3	Spic	Shel	R	Walk	½Fl	7.7	25.8	Gem	35x5*	35x5	.....	.....	3600	130	75
Winther Delivery Special	1795	H-Sp 7000	3½x5	19.6	L	T	Brm	PT	F	Strm	V	.....	W-Gr	DD	Wes	W	W-Gr	U	3	Pet	Det	I	Torb	D	6.6	21.4	Lav	34x4½*	35x5*	Mut	Fir	2700	135	66
Wisconsin B (Sauk City)	1950	Wau FU	4 x3¾	25.6	L	C	Chic	PT	F	Strm	V	Wau	B-Li	DD	Bos	Bos	B-Li	U	4	Spic	Det	W	Timk	½Fl	7	......	Lav	34x5*	34x5*	Bim	Gdy	3400	136	80
Wolverine	2125	Cont N	3½x5	19.6	L	C	.....	PT	F	Strm	G	Phar	.....	D	Eis	Bj	.....	U	3	UP	Tut	I	Russ	D	7.7	11.7	Gem	34x3	34x4	Hay	Gdy	2800	140	72
*Young 5	2000	Cont N	3¾x5	22.5	L	...	Whee	Fin	F	Sch	G	.....	B-Li	D	Eis	.....	B-Li	U	3	Spic	Math	W	Timk	½Fl	.....	......	Ros	34x3½	34x5	StM	.....	2950	138	70

1¼ Ton

Akron Multi-Truck	1695	Hin	4 x5¼	25.6	L	C	Fed	H	F	Strm	G	.....	War	DP	Wes	W	W-Gr	U	3	.....	Stan	S	Eat	½Fl	5.125	......	Jac	34x5*	34x5*	Bim	Fir	3600	134	....
Commerce T	1450	Cont N	3¾x5	22.5	L	T	Lng	Fin	S	Zen	V	.....	DG	C	Eis	Bj	Det	U	3	Spic	Det	B	Sals	¾Fl	5.71	18.2	Jac	34x4½	34x4½	Bim	Fir	2900	127	80
Diamond T-O-3	1975	Hin	3¾x5¼	22.5	L	C	GO	Fin	F	Strm	V	.....	Covt	DD	Bos	.....	Covt	U	3	Spic	Math	W	Wis	½Fl	6.20	26.06	Gem	36x3½	36x4	.....	.....	3800	132	....
Garford 25 B	......	Buda WU	3¾x5⅛	22.5	L	C	Own	Fin	S	Strm	V	.....	.....	DD	Spl	.....	Own	A	3	Spic	Per	W	Timk	½Fl	7.75	......	Ros	36x3½	36x4	.....	.....	4000	135	....
*Reo F	1245	Own	4⅛x4½	27.2	L	C	Own	PT	S	John	G	.....	Own	DD	Opt	Opt	Own	A	3	Own	Pen	B	Own	Flot	4.7	17.3	Own	34x4½*	34x4½*	Pru	Fir	2560	128	62.5
*Samson 25	......	Own	3 11/16x5¼	21.8	H	C	.....	Pt	S	Zen	G	Mon	.....	D	Rm	AL	Own	A	3	Own	Own	S	Own	½Fl	6.83	24.12	Own	35x5*	35x5*	Own	.....	2800	118	47
Schwartz A	1685	Lyc KB	3½x5	19.6	L	T	G&O	H	S	Car	V	.....	Full	DP	Wes	Wes	Full	U	3	M-E	Row	B	Eat	½Fl	6.14	24.6	Ros	34x4½*	34x4½*	Sch	Fir	2850	130	....
Service 15	......	Mid	3⅝x5	21	H	C	Lng	Fin	F	Sheb	G	.....	B-Li	DP	Rm	RE	B-Li	U	3	M-E	Shel	B	Eat	½Fl	5.625	22.1	Own	34x4½*	35x5*	Det	.....	3100	132	....
*Yellow Cab M41 1¼	2350	Cont N-3¾	3¾x5	22.5	L	T	Lng	Fin	FS	Zen	G	.....	B-Li	DD	Bos	.....	B-Li	U	3	Spic	Math	W	Timk	½Fl	7.2	24	Gem	35x5*	35x5*	Stn	Fir	2850	130	....

1½ Ton

Acason RB	......	Wau BUX	3¾x5¼	22.5	L	P	Can	C	S	Sheb	V	Wau	Full	.....	Eis	.....	Full	U	4	Bld	Det	W	Timk	½Fl	7.75	37.2	Ros	36x3½	36x6	Bim	Opt	3850	142	....
Ace 1½	......	Buda WU	3¾x5⅛	22.5	L	T	Mod	ZZT	S	Zen	V	.....	Full	DP	Eis	W	Full	A	3	UM	Math	W	Timk	½Fl	7.75	30.1	Ros	34x3½	34x5	Sch	Fir	4750	144	80
*Acme F	......	Cont J4	3¾x5	22.5	L	C	GO	Fin	F	Zen	V	Dup	B.B.	DP	Eis	DL	Cott	U	3	Bld	Det	W	Timk	½Fl	8.75	35	Ros	34x3½	34x5	Bim	.....	3982	141	50
Ajax B-2	......	Wei MAU	3¾x5½	22.5	H	G	G&O	.....	F	Strm	V	.....	Full	D	Wes	W	Full	...	3	Hart	Mer	W	Timk	½Fl	7.20	28.8	Ros	34x5*	36x6*	Smi	Fir	3242	134	80
Apex D	1915	Buda WU	3¾x5⅛	22.5	L	T	GO	C	F	Strm	V	.....	Full	D	AuI.	Op	Full	U	3	Bld	Det	I	Torb	D	8.1	24.1	Lav	34x3½	34x4	Roy	Fir	3070	130	70
Atco B	......	Buda CTU	3¾x5¼	22.5	L	C	Chic	PT	F	Strm	G	.....	Full	D	Eis	W	Full	U	3	Hart	GC	W	Wis	.....	7.25	29	Ros	34x5*	36x6*	Smi	Fir	3900	132	....
Atco B 1	......	Buda CTU	3¾x5¼	22.5	L	C	Chic	PT	F	Strm	G	.....	Full	D	Eis	W	Full	U	3	Hart	GC	I	Torb	D	7	28	Ros	34x5*	36x6*	Std	Fir	4200	132	....
Atterbury 20R	2475	Cont J4	3¾x5	22.5	C	C	Own	Fin	F	Zen	V	Sim	Full	DD	Ber	.....	Full	U	3	Spic	SP	W	Timk	¾Fl	7.75	31	Ros	34x3½	34x5	Arc	Fir	4500	144	71¾
Available H1½	2450	Her CU3	4 x5⅛	25.6	L	C	Chic	Fin	F	Strm	V	McC	B-Li	DD	Bos	.....	B-Li	U	3	M-E	Tut	W	Timk	½Fl	7	28	Ros	36x3½	36x5	Sch	.....	4000	145	75
Bell E	2100	Buda	3¾x5¼	22.5	L	C	Chic	PT	F	Strm	V	Dup	B.B.	DP	Eis	.....	Det	U	3	UP	Det	I	Russ	D	8.8	25.7	Gem	35x5*	36x6*	Bim	Fir	3500	136	65
Belmont B	......	Wis CAU	3¾x5	22.5	L	G	R-T	.....	F	Zen	V	Mon	B.B.	D	Eis	.....	.....	U	3	Ster	.....	I	Russ	D	7.7	23	Lav	34x4½*	34x5	E-O	Stn	3200	139	75
Bessemer H2	......	Cont-N¾	3¾x5	22.5	L	T	.....	C	FS	Strm	G	.....	B.B.	DP	Bos	.....	B-Li	A	3	Arv	Per	I	Torb	D	8	27	Ros	36x3½	36x5	Sch	Fir	3600	144	63
Bridgeport A 1½	2350	Buda WU	3¾x5⅛	22.5	L	...	Own	Fin	FS	Strm	G	Pier	B.B.	D	Eis	.....	B-Li	U	3	Hart	Per	W	Timk	½Fl	7.25	......	Ros	34x3½	36x6	Jon	Fir	3800	144	67
Brinton C	1500	Cont N-3¾	3¾x5	22.5	L	C	Bus	PT	F	Strm	G	.....	B-Li	D	Bos	.....	B-Li	U	3	Spic	Tut	W	Wis	½Fl	.....	33.6	Ros	34x4	34x5	Sch	.....	3300	138	....
Brockway S-4	......	Cont J-4	3¾x5	22.5	L	C	Bus	Fir	F	Strm	V	Phar	B-Li	DD	Eis	.....	B-Li	U	3	Spic	Mer	W	Shel	½Fl	7.8	31.2	Gem	36x3½	36x5	Hoo	.....	4000	140	70
Capitol G-1½	2975	Wis-CAU	3¾x5	22.5	L	C	GO	Fin	F	Strm	G	Sim	Det	DD	Bos	W	Cott	U	4	Spic	SP	W	Wis	½Fl	6.2	32.3	Ros	35x5*	38x7*	.....	Fir	4600	144	85
Chicago C1½	......	Her-CU2	3¾x5⅛	22.5	L	C	.....	PT	F	Strm	G	Sim	B-Li	D	Bos	.....	B-Li	U	3	Pet	Math	W	Timk	½Fl	7.2	25.8	Gem	36x3½	36x5	Opt	Stn	3800	144	....
Climber A-20	2450	H-Sp 7000	3½x5	19.6	L	T	Chic	ZZT	FS	Strm	V	.....	Hart	DP	AtK	W	Mun	U	3	Hart	Lah	I	Torb	D	8	36.1	Ros	36x6*	38x7*	Roy	Fir	4150	146	75
Clydesdale 42	2475	Cont	3¾x5	22.5	L	T	Own	PT	FS	Zen	G	Own	B-Li	DD	Bos	.....	B-Li	U	3	Spic	Stan	W	Timk	½Fl	7	23.3	Ros	36x3½	36x6	.....	.....	4650	146	72
Collier 19	......	Cont N¾	3¾x5	22.5	T	P	Lng	PT	S	Zen	V	Mon	Full	DP	Eis	.....	Full	U	3	UP	Math	W	Timk	½Fl	7.75	31	Ros	36x4	36x6	Bim	Fir	4000	144	70
Columbia H	2350	Cont N	3¾x5	22.5	L	C	Lng	Fin	F	Strm	G	.....	B.B.	DP	Spl	.....	Covt	U	3	Spic	Per	I	Russ	D	7.4	46	Own	35x5*	34x5	Det	Fir	3800	140	....
Commerce 12	1800	Cont N	3¾x5	22.5	L	T	Lng	Fin	S	Zen	V	.....	B-Li	DP	Eis	Bj	B-Li	U	4	Spic	Det	I	Torb	D	6.2	26.3	Jac	35x5	35x5	Bim	Fir	3100	130	90
Concord A	3150	Buda ITU	4 x5½	25.6	L	C	Bus	PT	F	Zen	G	Mon	B-Li	DP	Eis	.....	B-Li	U	4	Spic	Per	W	Timk	½Fl	8.75	35	Ros	36x3½	36x5	Arc	Fir	5000	140	70
*Corbitt E-22	2200	Cont N-¾	3¾x5	22.5	L	T	McC	Fin	FS	Strm	V	Sim	B-Li	DD	Eis	.....	B-Li	U	3	Hart	Shel	W	Shel	½Fl	6.5	19.5	Ros	34x3½	34x5	Bim	Fir	3890	140	75
Cyclone A	2300	H-Sp	3½x5	19.6	L	T	Lng	PT	FS	Sheb	G	.....	W-Gr	D	Wes	W	W-Gr	U	3	Nor	Row	I	Torb	D	8.23	26.66	Ros	34x5*	36x6*	Day	Opt	3250	136	75
Dart S	......	Buda WU	3¾x5⅛	22.5	L	T	Own	C	S	Zen	V	Pier	Full	DD	Eis	.....	Full	U	3	Spic	Per	W	Own	.....	7.5	22.5	Ros	34x3½	34x6	Pru	.....	3800	140	80
Day Elder B	2000	Cont N	3¾x5	22.5	L	T	Bus	Fin	FS	Zen	G	.....	Covt	DD	Eis	.....	Covt	U	3	Hart	IC	W	Shel	½Fl	8.75	32.03	Gem	34x3½	34x5	Jon	Fir	3500	144	70
Dearborn F	2180	Buda WU	3¾x5⅛	22.5	L	T	Chic	Fin	FS	Strm	V	.....	Full	DP	Bos	.....	Full	U	3	Arv	Tut	W	Wis	½Fl	8.5	25.5	Dit	34x4	34x5	.....	.....	3280	126	70
Dearborn FX	2300	Buda WU	3¾x5⅛	22.5	L	T	Chic	Fin	FS	Strm	V	.....	Full	DP	Bos	.....	Full	U	3	Hart	Tut	W	Wis	½Fl	8.5	25.5	Dit	34x4	34x5	.....	.....	3600	138	70
Defiance D	2095	Hig	3¾x5	22.5	L	P	Per	C	FS	Strm	...	.....	B.B.	DP	Eis	AL	G-Le	U	3	Arv	Det	I	Torb	D		21	Own	35x5*	36x6*	StM	Fir	3200	140	85
Denby 33	2300	ContN¾	3¾x5	22.5	L	T	Lng	PT	FS	Strm	G	.....	Full	DD	Eis	RE	Full	U	3	Up	Det	I	Cl	D	7.1	27.32	Gem	35x5*	38x7*	Mot	Fir	3800	136	65
Dependable C-1½	2350	Buda CTU	3¾x5¼	22.5	L	C	Lng	Fin	F	Zen	V	Mon	Full	DD	Spl	AL	Full	U	3	Acm	Per	W	Wis	½Fl	8.2	31.5	Ros	34x3½	34x5	Bim	Fir	4120	Op	70
*Diamond T-Farm Spec	2525	Hin	3¾x5¼	22.5	L	C	GO	Fin	F	Strm	V	Own	Covt	DD	Bos	....	Covt	U	3	Spic	Math	W	Wis	½Fl	8.2	29.9	Gem	36x3½	36x5	.....	.....	5100	144	....
*Diamond T—T	2250	Hin	3¾x5¼	22.5	L	C	GO	Fin	F	Strm	V	Own	Covt	DD	Bos	.....	Covt	U	3	Spic	Math	W	Timk	½Fl	8.2	29.9	Gem	36x3½	36x5	.....	.....	4150	144	....
Diehl B	......	H-Sp	3½x5	19.6	L	T	.....	H	FS	Zen	G	.....	M-E	.....	Bos	.....	Durs	...	3	M-E	Row	I	Torb	D	5.3	......	Ros	......	......	Wan	.....	2500	120	70
D-Olt AA	2650	H-Sp 7000	3½x5	19.6	L	T	GO	PT	S	Zen	V	Opt	B.B.	.....	Eis	.....	Cott	...	4	Spic	SP	W	Timk	½Fl	8.25	......	Ros	34x4	34x5	.....	.....	5300	168	70
Douglas G-1½	2050	Buda WU	3¾x5⅛	22.5	L	S	Own	PT	P	Sheb	V	.....	Full	DP	Eis	.....	Full	U	3	Arv	Own	I	Torb	D	8	23.1	Ros	24x3½	34x5	Own	Fir	3725	126	65
Douglas GW	2050	Wei	3¾x5½	22.5	H	C	Own	PT	F	Sheb	V	.....	B.B.	DP	Eis	.....	G-Le	U	3	Arv	Own	I	Torb	D	8	23.1	Ros	24x3½	34x5	Own	Fir	3725	126	65
*Erie	2425	Buda CTU	3¾x5¼	22.5	L	C	Fed	C	FS	Zen	V	.....	Full	D	Bos	Bos	Full	A	3	Arv	Per	W	Shel	.....	6.5	26	Ros	36x6*	36x6*	Bim	Fir	4100	144	75
Fageol 1½	3000	Wau-BUX	3¾x5¼	22.5	L	C	Mod	C	S	Zen	V	Wau	Det	DD	Spl	.....	Own	U	5	UP	Math	W	Eat	½Fl	5.6	59.5	Ros	34x3½	34x6	Pru	.....	4300	136	80
Federal TE	2175	Cont C4	4⅛x5¼	27.2	L	C	Own	PT	FS	Zen	G	Phar	B.B.	DP	Eis	.....	Own	A	4	Spic	Mat	W	Timk	Flot	8.5	37.4	Gem	36x3½	36x5	Sch	Fir	4250	144	68.5

Trade Name and Model	Chassis Price	ENGINE DETAILS: Make and Model Number 4 Cylinder unless otherwise noted	Bore and Stroke	N. A. C. C. Horsepower	Valve Arrange't	How Cooled	Radiator (Make)	Radiator (Type)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Clutch (Make)	Clutch (Type)	Ignition System	Engine Starter	GEARSET: Make	Location	Speeds	Universal (Make)	Springs (Make)	REAR AXLE: Final Drive	Make	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight	Wheelbase	Pr. Cent of Weight on Rear Wheels
1½ Ton—Con'd		1			2	3	4	5	6	7	8	9	10	11	12	13	14	15		16	17	18	19	20			21			22	23			
Forschler C	.....	Cont N	3½x5	19.6	L	C	Own	.....	FS	Zen	...	Dup	Full	.....	Bos	Op	Full	...	3	Hart	Own	W	Shel	.....	.....	.....	Ros	36x3½	36x5	Smi	.....	3670	120	....
Front Drive C	2800	Buda CTU	3¾x5¼	22.5	L	G	EM	PT	S	Zen	...	Pier	B.B.	DD	Spl	Op	Own	A	3	Own	Own	W	Own	½Fl	8	32	Lav	34x5	34x5	Stn	.....	3200	Op	55
Gary GT	2550	Buda IU	4 x5½	25.6	L	C	Chic	Fin	F	Mas	G	McC	Full	DD	Eis	.....	Full	U	3	Bld	Det	W	Timk	Flot	7.2	21.7	Ros	36x3½	36x5	Pru	Gdy	3800	144	68
Gersix M	3100	Buda ITU	4 x5½	25.6	L	C	Idl	C	F	Strm	V	Mon	B.B.	....	Bos	.....	Cott	U	3	Bld	Tut	W	Shel	.....	7.7	31	Ros	36x3½	36x6	Jon	.....	4300	142	70
Giant 15A	2250	Cont N	3¾x5	22.5	L	T	Idl	....	FS	Sheb	G	....	B-Li	DD	Eis	.....	B-Li	U	3	Spic	Math	W	Timk	½Fl	7.8	24.97	Jac	34x3½	34x5	Way	.....	2950	138	94
*Graham Bros Speed Truck	2495	Cont N	3¾x5	22.5	L	T	Lng	PT	FS	Strm	G	Mon	Full	DD	Eis	Op	Full	U	3	Hart	Det	I	Torb	D	7	28	Lav	35x5*	36x6*	Det	Det	2950	133	80
*Gramm Bernstein 15	1900	Cont N	3¾x5	22.5	L	T	Own	Fin	S	Strm	G	.....	Full	DD	NE	NE	Full	U	3	Own	Per	I	Cl	D	7.6	30.4	Ros	36x3½	36x5	Bim	Fir	3800	138	90.5
Gramm Bernstein 65	2500	Cont N	3¾x5	22.5	L	T	Own	Fin	S	Strm	G	.....	Full	DD	NE	NE	Own	A	3	Own	Per	W	Eat	½Fl	7.8	28	Ros	36x3½	36x5	Bim	Fir	4200	138	90.5
G. W. W. Farm Spec	1950	Wei	3¾x5½	22.5	H	G	Chic	....	F	Sheb	G	....	Full	.....	Del	Del	Full	U	3	Acm	GC	I	Cl	D	7	.....	Woh	35x5	35x5	Roy	Fir	3200	142	65
Higrade B20	2500	Cont K4	4 ½x5¼	27.2	L	G	Per	PT	FS	Zen	V	....	Full	DP	Eis	AL	Full	U	3	Bld	Per	W	Shel	.....	7.7	31	Lav	36x6	36x6	Det	Fir	3100	130	66
H.R.L.-R	3250	Hink HAA	4 x5¼	25.6	L	C	Fed	Fin	F	Zen	V	Hin	B-Li	DP	Bos	GD	B-Li	U	4	Spic	Shel	W	Shel	.....	7.75	30	Ros	36x4	36x7	Sch	Gdy	4560	144	....
Huffman B	1995	Cont N	3¾x5	22.5	L	T	Liv	C	F	Zen	G	Mon	Full	DD	Eis	.....	Full	U	3	Hart	Per	W	Amr	.....	9.66	.....	Lav	35x5*	34x6	Roy	Fir	3200	140	85
Huffman C	1795	Buda WU	3¾x5 ½	22.5	L	T	Liv	C	F	Zen	G	Mon	Full	DD	Eis	.....	Full	U	3	Hart	Per	I	Torb	D	8	.....	Lav	34x3½	38x7*	Roy	Fir	3350	140	85
Hurlburt	.....	Buda IU	4 x5½	25.6	L	C	Own	....	FS	Flch	G	Dup	B-Li	D	Eis	.....	B-Li	U	3	Spic	Per	W	Emp	.....	.....	.....	Ros	34x4	34x5	Way	.....	4300	148	85
Huron-Erie	.....	Buda CTU	3¾x5¼	22.5	L	C	....	Fin	F	Zen	V	Pier	B.B.	D	Bos	.....	Cott	U	4	Det	Det	I	Cl	D	7	36.4	Jac	35x5*	38x7*	AuW	Fir	.....	144	90
Independent G (Iowa)	2040	Cont N	3¾x5	22.5	L	C	GC	PT	FS	Strm	V	....	Full	DD	Bos	.....	Full	U	3	Bld	GC	I	Russ	D	8.2	.....	Lav	34x3½	34x5	StM	Fir	3875	142	75
Independent F (Ohio)	2385	Cont N	3¾x5	22.5	L	G	Lng	PT	F	Strm	G	....	Full	DP	Eis	.....	Full	U	3	Ster	Math	W	Wis	.....	8.2	33.1	Ros	36x3½	36x5	.....	.....	3400	140	85
Indiana 12	.....	Wau BUX	3¾x5¼	22.5	L	G	McC	Fin	F	Strm	G	Wau	B.B.	DP	Eis	.....	B-Li	A	3	Spic	Shel	W	Shel	½Fl	7.8	31.2	Woh	34x3½	34x5	Bim	.....	4100	134	66
International 31	1850	Own	3½x5¼	19.6	L	C	Own	Fin	FS	Ens	G	Own	Own	DP	Bos	Own	Own	A	3	Own	.....	I	Own	D	8	26.5	Own	36x3½	36x4	Own	.....	3190	128	50
Jumbo 15	2425	Buda CTU	3¾x5¼	22.5	L	C	Own	Fin	F	Zen	G	....	Full	D	NE	NE	Full	U	3	Arv	Per	I	Cl	D	7.2	28.8	Jac	36x3½	36x5	.....	.....	4530	144	75
Kalamazoo G-1	2495	Cont N	3¾x5	22.5	L	T	....	C	FS	Strm	V	Pier	Full	D	Con	Dy	Full	A	..	Acm	Shel	W	Wis	½Fl	8.5	41	Ros	34x4	34x5	Bim	.....	4450	144	80
Kalamazoo G	1995	Cont J4	3¾x5	22.5	L	P	GO	PT	F	Strm	V	Mon	Full	D	Bos	Dy	Ful	A	4	Acm	Shel	W	Wis	½Fl	8.2	41	Ros	36x4	36x6	Bim	.....	5080	144	80
Kearns 1½	2200	H-Sp 7000	3½x5	19.6	L	T	Own	H	FS	Zen	V	Pier	B.B.	DD	Ber	Dy	G-Le	U	3	ME	Math	I	Torb	D	8	24	Lav	34x3½	34x6	Way	.....	3400	136	60
Kelly-Springfield K31	2900	Own	3¾x5¼	22.5	L	C	Lng	Fin	F	Zen	G	Pier	Own	C	Eis	W	Covt	A	3	Own	Per	C	Own	D	8.6	31.58	Gem	36x3½	36x6	StM	.....	4420	Op	89
Kelly-Springfield K34	2900	Own	3¾x5¼	22.5	L	C	Lng	Fin	F	Zen	G	Pier	B.B.	D	Eis	W	Covt	A	3	Spic	Per	W	Shel	½Fl	8.6	31.78	Gem	36x3½	36x6	StM	.....	4670	Op	89
*Kissel General Utility	1975	Own 40000	3 ½x5½	24.1	L	C	McC	PT	S	Strm	V	Pier	W-Gr	DP	Eis	.....	W-Gr	U	3	Spic	Mat	W	Shel	½Fl	7.8	28.5	Jac	36x3½	36x5	Pru	.....	4100	152	70.5
Kleiber A	.....	Cont C4	4 ½x5¼	27.2	L	C	Per	C	FS	Strm	G	....	....	WD	Bos	.....	B-Li	A	4	Spic	.....	W	Timk	¾Fl	7.1	37.51	Ros	36x3½	36x6	Smi	.....	5200	143	75
Koehler D	1995	H-Sp	3½x5	19.6	L	T	Own	PT	F	Zen	G	Sim	B-Li	D	Eis	.....	.....	U	3	.....	Math	W	Dun	½Fl	7.25	.....	Lav	34x3½	34x5	Way	.....	3600	137	70
*Larrabee-Deyo U	2400	Cont N¾	3¾x5	22.5	L	G	Bus	Fin	S	Sheb	G	Sim	B-Li	DD	Bos	.....	B-Li	U	3	.....	Mer	W	Shel	½Fl	7.6	25.5	Ros	34x3½	34x5	Hoo	.....	3600	138	....
Luedinghaus W	2490	Wau BUX	3¾x5¼	22.5	L	G	Own	Pit	FS	Sheb	G	Wau	B.B.	D	Spl	.....	Det	U	3	Spic	Tut	W	Wis	½Fl	8.6	26.6	Lav	34x3½	34x5	StM	.....	4100	144	75
Maccar L	2700	Cont C4	4 ½x5¼	27.2	L	C	Own	Fin	FS	Strm	G	Mue	B-Li	DD	Eis	.....	B-Li	U	4	Spic	Mer	W	Timk	½Fl	8.75	46.81	Ros	36x4	36x6	Day	Fir	4800	150	66
Mack AB1½	3000	Own AB	4 x5	25.6	L	C	Own	C	S	Sheb	G	Own	Own	DD	Tea	.....	Own	U	4	Spic	Mer	C	Own	D	6.9	28.01	Own	36x4	36x3½†	Sch	.....	5000	Op	68
Mack AB1½	3450	Own AB	4 x5	25.6	L	C	Own	C	S	Sheb	G	Own	Own	DD	Tea	.....	Own	U	4	Spic	Mer	R	Own	Flot	7.6	34.09	Own	36x4	36x3½†	Sch	.....	5100	Op	68
*Master JW	2690	Buda OU	4 ½x5½	27.2	L	C	Chic	PT	S	Mas	V	McC	Full	DP	Eis	.....	Full	U	3	Spic	Det	W	Timk	½Fl	7.7	31	Ros	34x3½	34x5	Pru	.....	3900	142	78
*Maxwell	1332	Own	3 ⅝x4½	21.	L	C	Own	PT	FS	Eag	G	....	Own	C	AtK	.....	Own	U	3	Own	.....	W	Own	½Fl	7.25	34.4	Own	35x5	35x5	Kel	Fir	2385	124	50
*Menominee H	.....	Wis EAU	4 x5	25.6	L	C	Own	Fin	FS	Strm	G	Mon	Det	DP	Eis	Opt	Cott	U	3	Spic	Tut	W	Wis	....	8.25	30.36	Ros	36x3½	36x5	Stn	Fir	4220	144	74
*Moline 10	.....	Own NT	3½x5	19.6	H	C	Mod	C	F	Till	G	Phar	....	DP	Spl	.....	Own	U	3	Arv	Math	I	Torb	D	8	38	Ros	34x5*	36x6*	.....	Fir	.....	130	....
Moreland 21B	2800	Cont K4	4 ½x5¼	27.2	L	C	Own	C	F	Mas	P	....	Own	DD	Spl	.....	Own	A	4	Ther	US	W	Timk	½Fl	7	33.88	Ros	36x3½	36x6	Smi	.....	4900	126	....
Napoleon 11	1860	Vict	3½x5	19.6	H	T	Own	PT	F	Sheb	G	....	Full	D	Con	AL	Full	U	3	Bld	Math	I	Torb	D	8	24	Lav	35x5*	36x6*	Roy	Fir	3450	133	65
*Nelson-LeMoon G1½	.....	Cont C4	4 ½x5¼	27.2	L	C	Chic	Fin	FS	Strm	G	Phar	B-Li	DD	Bos	W	B-Li	U	3	Own	Tut	W	Timk	½Fl	7	.....	Lav	36x3½	36x6	Pru	Gdy	3400	Op	80
*Noble B30	2100	Buda CTU	3¾x5¼	22.5	L	C	Chic	Fin	F	Strm	G	Pier	Full	DD	Eis	W	Full	U	3	M-E	Tut	W	Shel	½Fl	8.7	31.1	Lav	36x3½	36x5	Bim	Fir	4680	156	85
Norwalk	2025	Lyco K	3½x5	19.6	L	T	Stan	C	FS	Zen	V	....	B.B.	D	Del	Dy	G-Le	U	3	UM	SPar	W	Shel	¾ Fl	7.75	.....	CAS	34x3½	34x5	E&O	Fir	3200	143	75
Norwalk 35 E Special	2285	Buda CTU	3¾x5¼	22.5	L	G	Stan	C	FS	Zen	V	....	B.B.	D	Del	Dy	G-Le	U	3	Spic	Stan	W	Shel	¾ Fl	7.2	.....	Det	34x4*	34x5	E&O	Fir	3450	150	43
O. K. 1½T	2675	Buda ITU	4 x5½	25.6	L	G	R-T	PT	FS	Zen	V	Pier	Full	DD	Eis	.....	Full	U	3	Hart	Cham	W	Wis	½Fl	8.25	24.8	Ros	36x3½	36x5	Bim	.....	4310	146	....
Ogden A1	.....	Cont N	3¾x5	22.5	L	T	Chic	Fin	FS	Strm	G	Pier	B-Li	DD	Bos	.....	B-Li	U	3	M-E	Tut	W	Timk	½Fl	8.75	.....	Gem	36x3½	36x5	Stn	.....	3400	136	70
Old Reliable A	2350	WisEU	4 x5	25.6	L	C	Chic	PT	FS	Strm	V	Mon	Full	DD	Bos	Op	Full	U	3	Spic	Shel	W	Shel	½Fl	7.7	24.94	Ros	34x3½	36x6	StM	.....	4150	138	90
*Oneida B9	2825	Oneida	4 x5¼	25.6	L	C	Mod	C	F	Strm	V	Hin	Full	DP	Opt	.....	Full	A	3	Pet	Math	W	Wis	½Fl	8.25	33	Ros	36x6*	38x7	.....	.....	5025	144	....
Paige 52-19	2880	HinHAA400	4 x5¼	25.6	L	C	Own	Fin	F	Strm	V	Hink	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Per	W	Timk	½Fl	7.7	37.51	Ros	34x3½	34x5	Own	Fir	4000	140	85
*Power F	.....	Hink	4 x5¼	25.6	L	C	GO	PT	F	Zen	V	Hin	Full	DD	Eis	W	Full	U	4	Arv	Row	W	Vul	½Fl	7.75	37.2	Ros	36x6*	40x8*	StM	Fir	5300	150	69
Premocar	2350	Lyc-K	3½x5	19.6	L	T	....	C	S	Zen	V	....	BB	....	Del	Dyn	G-L	U	3	Spic	Shel	W	Timk	½Fl	7	.....	Dit	36x6	36x6	.....	Fir	4200	130	70
Rainier R16	2490	Cont N	3¾x5	22.5	L	T	Har	H	FS	Zen	V	Mon	B-Li	DP	Eis	.....	B-Li	U	3	Hart	Per	W	Shel	.....	.....	.....	Lav	34x3½	34x5	.....	Fir	3600	147	80
Reliance 10A	2400	Buda ITU	4 x5½	25.6	L	C	Bus	PT	FS	Strm	G	Pier	Full	DD	Eis	.....	Full	U	3	Pet	Shel	P	Badg	D	6.6	26.4	Ros	36x3½	36x5	Bim	Gdy	4500	150	90
*Republic 11X	1795	Cont N3¾	3¾x5	22.5	L	C	Own	C	FS	Strm	G	Rug	Full	DD	Bos	.....	Full	U	3	Hart	Math	I	Torb	D	8	18.84	Jac	34x4	34x6	Nor	Fir	3400	144	....
Rowe CW1½	3000	Wis CAU	3¾x5	22.5	L	C	Fed	H	F	Zen	G	Sim	B-Li	DD	Bos	.....	B-Li	U	4	Spic	Shel	W	Shel	½Fl	6.5	26	Ros	36x6*	36x6*	Hoo	.....	3800	133	69.1
Rumely A	2720	Buda CTU	3¾x5¼	22.5	T	C	Mod	ZZT	F	Strm	G	Pier	Full	DP	Ber	.....	Full	U	3	Bld	Mat	W	Shel	½Fl	7.8	31.2	Gem	36x3½	36x5	Mot	Gdy	4100	144	75
Sandow CG	2590	Cont N¾	3¾x5	22.5	L	T	....	Fin	FS	Strm	G	....	....	DD	Eis	.....	Full	U	3	Spic	GC	W	Shel	.....	7.8	23	Ros	34x3½	34x5	StM	.....	3300	135	70
Schwartz BW	2600	Buda CTU	3¾x5¼	22.5	L	C	Fed	H	F	Strm	G	Mon	Full	DP	Bos	.....	Full	U	3	M-E	Row	W	Shel	½Fl	7.8	31.2	Ros	34x3½	34x6	Sch	Fir	4400	140	....
Selden 1½A	2360	Cont N	3¾x5	22.5	L	C	Lng	Fin	FS	Strm	G	Pier	B-Li	D	Eis	.....	B-Li	U	3	Spic	Per	W	Timk	½Fl	7	23.31	Lav	34x3½	34x5	Arc	.....	3560	137	57
*Service 220	.....	Buda R U	3½x5½	19.6	L	C	....	Fin	FS	Strm	V	....	Full	DD	Eis	.....	Full	U	3	Arv	Shel	W	Timk	½Fl	7.75	23.25	Ros	34x3½	34x5	Bim	.....	3450	137	65
*Signal H	2632½	Cont C4	4 ½x5¼	27.2	L	C	McC	Fin	FS	Strm	G	Pier	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Shel	W	Timk	½Fl	7.75	31	Ros	34x4	36x6	St.M	.....	4760	146	66
Southern 15	2590	Cont N	3¾x5	22.5	L	C	R-T	PT	S	Zen	...	Pier	Full	DD	Bos	.....	Full	U	3	.....	Shel	W	Shel	.....	.....	.....	Ros	36x6	38x7	.....	.....	.....	144	70
Sterling 1½	2885	Ster FU	4x5¾	25.6	L	C	Own	C	F	Zen	V	Wau	B-Li	DD	Eis	.....	B-Li	U	4	Spic	Mat	W	Timk	½Fl	7	37.45	Ros	36x3½	36x5	Pru	.....	5130	142	94
*Stewart 9	2200	Cont N¾	3¾x5	22.5	L	C	Bus	PT	FS	Zen	G	....	Full	DP	Eis	.....	Full	U	3	Hart	Det	I	Cl	D	7.6	22.8	Gem	34x3½†	34x5†	Way	Fir	3440	140	70
Stoughton B	2350	Wau BUX	3¾x5¼	22.5	L	C	Own	Fin	FS	Strm	G	Wau	B-Li	DD	Eis	.....	B-Li	U	3	Ther	Shel	W	Shel	½Fl	7.8	31.2	Lav	36x3½	36x5	Bim	Gdy	3800	140	71
Tiffin GW	2400	Cont C4	4 ½x5¼	27.2	L	C	Own	Fin	FS	Sheb	G	Pier	Full	DD	Bos	W	Full	U	3	Pet	Kal	W	Shel	.....	7.7	23.25	Ros	36x3½	36x5	Smi	.....	3750	135	80
Tower J1½	2900	Cont C4	4 ½x5¼	27.2	L	C	Own	PT	S	Zen	G	....	Full	DP	Eis	.....	Full	U	3	Bld	Det	W	Timk	½Fl	7.25	29	Ros	35x5*	38x7*	Pru	Fir	4520	142	70
Traffic-Speedboy	1695	Cont N4	3¼x5	22.5	L	T	Own	C	FS	Cart	G	....	Covt	DP	Bos	.....	Covt	U	3	Ther	Det	I	Russ	D	6.15	22.5	Own	35x5*	35x5*	Opt	Fir	3100	128	75
Transport 30	1995	Cont N-3¾	3¾x5	22.5	L	T	Mod	C	FS	Strm	G	Sim	Full	DD	Eis	.....	Full	U	3	Hart	Det	I	Cl	D	7.6	30.4	Jac	36x3½	36x5	.....	Fir	3450	140	70
Traylor B	2390	Buda WU	3¾x5½	22.5	L	C	GO	Fin	F	Zen	G	Sim	Covt	DD	Spl	.....	Covt	U	3	M-E	Mer	W	Shel	½Fl	7.8	.....	Ros	34x3½	34x6	Sch	.....	4000	140	75
Triangle A	2350	Wau BUX	3¾x5¼	22.5	L	C	Per	ZZT	FS	Strm	G	Wau	Full	DD	Eis	.....	Full	U	3	UP	Det	I	Cl	D	7.25	21	Gem	34x3½	34x6	Roy	Fir	3750	144	60
*Triumph	1950	Buda MU	3½x5½	21	L	C	Mod	PT	F	King	V	Pier	B.B.	D	Spl	.....	Cott	U	4	UP	Tut	W	Wis	½Fl	7.25	.....	Lav	36x3½	36x5	Stn	Stn	.....	132	70
*Ultimate A	3200	Buda ITU	4 x5½	25.6	L	C	Own	PT	F	Strm	G	Pier	Full	DD	Eis	Bos	B-Li	U	4	Spic	Shel	W	Shel	....	6.5	.....	Ros	36x3½	36x6	Jon	Fir	4500	156	72
United A-1½	2445	Buda CTU	3¾x5¼	22.5	L	C	Mod	PT	F	Strm	G	Sim	Full	DD	Eis	Op	Full	U	3	Bld	Ben	I	Cl	D	7.6	30.4	Jac	34x3½	34x6	Pru	Fir	4000	145	70
Ursus U 40	2500	Buda CTU	3¾x5¼	22.5	L	T	.....	PT	F	Strm	...	Pier	Det	D	Spl	.....	Cott	...	3	Ther	.....	W	Opt	.....	.....	.....	Ros	Opt	Opt	Roy	.....	.....	Op	....

U. S.-N.	.....	Cont N	3¾x5	22.5	L	C	Lng	Fin	FS	Strm	V	.....	B-Li	DD	Eis	Op	B-Li	U	3	Opt	Shel	I	Cl	D	7.6	25.3	Lav	36x3½	36x5	Sch	..}..	3800	144	85
U. S.-N. C.	.....	Cont N	3¾x5	22.5	L	C	Lng	Fin	FS	Strm	V	.....	B-Li	DD	Eis	Opt	B-Li	U	3	Opt	Shel	I	Cl	D	7.6	25.3	Lav	35x5*	38x7*	Sch	.....	3800	144	85
U. S.-N. P.	.....	Cont N	3¾x5	22.5	L	C	Lng	Fin	FS	Strm	V	.....	B-Li	DD	Eis	Opt	B-Li	U	3	Opt	Shel	W	Shel	½Fl	7.8	25.97	Lav	35x5*	38x7*	Sch	.....	3900	144	85
U. S.-N W	.....	Cont N	3¾x5	22.5	L	C	Lng	Fin	FS	Strm	V	.....	B-Li	DD	Eis	Op	B-Li	U	3	Opt	Shel	W	Shel	½Fl	7.8	25.97	Lav	36x3½	36x5	Sch	.....	3900	144	85
Velie 46	1585	Cont N¾	3¾x5	22.5	L	C	Own	PT	FS	Strm	G	Mon	B.B.	D	Ber	.....	Durs	U	3	Arv	Mat	I	Torb	D	8	37.4	Ros	36x3½	36x5	Bim	Gdy	3650	133	80
White Hickory H	.....	Cont N¾	3¾x5	22.5	L	C	Chic	Fin	FS	Strm	V	Sim	Full	DD	Eis	.....	Full	U	3	Arv	Shel	W	Timk	½Fl	8.5	25.5	Ros	36x3½	36x5	Bim	Fir	3750	144	76
*Wichita L.	2600	Wau BX	3¾x5¼	22.5	L	G	.....	PT	F	Strm	G	Wau	Own	C	Wag	.....	B-Li	A	4	Own	Det	W	Shel	½Fl	8.66	45.03	Ros	36x3½	36x5	Bim	Fir	4100	144	80
*Wilcox BB	.....	Own	4¼x5	28.9	L	P	.....	PT	S	Strm	G	Dup	Own	C	Bos	.....	Own	A	4	Own	Shel	R	Walk	½Fl	8.25	39.9	Own	36x4	36x5†	.....	.....	4600	135	75
Wilson F.	2270	Own	3¾x5⅛	22.5	L	G	.....	PT	FS	Mar	G	Pier	B.B.	D	Eis	.....	Own	A	4	Ther	Per	W	Timk	½Fl	7.75	24	Ros	36x3½	36x5	..	.....	3800	142	75
Winther 39	2450	Wis CAU	3¾x5	22.5	L	P	Brm	PT	F	Strm	G	.....	Full	DD	Eis	W	Full	U	3	Pet	Det	I	Cl	D	7	21	Lav	34x3½	34x5	Own	Fir	3700	140	70
Winther 430	2850	Wis CAU	3¾x5	22.5	L	P	Brm	PT	F	Strm	G	.....	Full	DD	Eis	W	Full	U	3	Pet	Det	I	Cl	D	9	36	Lav	32x4	32x4	Own	Fir	4100	132	70
*Wisconsin C (Sauk City)	2500	Wau CU	4⅝x5¾	30.6	L	C	Chic	PT	F	Strm	V	Wau	B-Li	DD	Opt	Bos	B-Li	U	4	Spic	Det	W	Timk	½Fl	8.75	.....	Lav	36x6*	38x7*	Bim	Gdy	4000	144	80
Witt Will N.	2250	Cont C4	3¾x5¼	22.5	H	G	Mod	Opt	FS	Zen	G	Pier	B-Li	DD	Eis	.....	B-Li	U	3	Spic	Del	W	Timk	½Fl	7	30.36	Ros	36x3½	36x4	Arc	.....	4000	120	67
Wolverine C.	.....	Cont N	3¾x5	22.5	L	T	Lng	Fin	FS	Strm	G	Mon	Full	DP	Eis	GD	Full	U	3	UP	Tut	I	Russ	D	8.2	32.8	Gem	34x3½	34x5	Hay	Gdy	3400	140	77
Wolverine D.	.....	Cont N	3¾x5	22.5	L	T	Lng	F	FS	Strm	G	Mon	Full	DP	Eis	GD	Full	U	3	UP	Tut	I	Rus	D	10.2	40.8	Gem	34x4	34x7	.....	Gdy	4250	148	80
Wolverine J	2375	Cont J	3¾x5	22.5	L	C	.....	PT	F	Strm	G	Phar	.....	D	Eis	Bj	.....	U	3	UP	Tut	I	Russ	D	8.2	12.2	Gem	34x3½	34x5	Hay	Gdy	3200	140	70

2 Ton

*Acme A.	.....	Cont C4	4⅛x5¼	27.2	L	C	GO	Fin	FS	Rayf	V	Dup	B.B.	DP	Eis	DL	Cott	U	4	Bld	Det	W	Timk	Flot	9.25	48.10	Ros	36x4	36x7	Bim	.....	4830	148	50
Autocar F.	2300	Own 2F	4¾x4½	18	L	C	Own	Fin	S	Strm	G	.....	Own	DP	....	.....	Own	A	3	.....	.....	R	Own	Flot	8.3	33.2	Own	34x4	34x5	Hoo	.....	3430	97	65
Autocar G.	2400	Own 2G	4¾x4½	18	L	C	Own	Fin	S	Strm	G	.....	Own	DP	....	.....	Own	A	3	.....	.....	R	Own	Flot	8.3	33.2	Own	34x4	34x5	Hoo	.....	3690	120	65
Available H 2	2750	Her CU3	4 x5⅛	25.6	L	C	Chic	Fin	FS	Strm	V	Pier	B-Li	DD	Bos	.....	B-Li	A	4	M-E	Tut	W	Timk	½Fl	7	36.4	Ros	36x3½	36x6	Sch	.....	4400	147	75
Belmont C.	.....	Wis TAU	4 x6	25.6	L	P	R-T	.....	F	Zen	V	Mon	B.B.	D	Eis	.....	.....	U	3	Ster	.....	I	Russ	D	8	24	Lav	36x4	36x7	E-O	Stn	4300	150	75
Belmont E.	.....	.....	3 x5	14.4	L	C	.....	.....	G	Zen	P	Pier	B&B	DP	Dy	.....	.....	U	3	.....	Math	.....	.....	.....	.....	.....	.....	35x5*	38x7*	.....	.....	.....	144	....
Belmont F	.....	Buda ETU	4¼x5½	28.9	L	P	R-T	.....	F	Zen	G	Pier	Full	D	....	GD	.....	U	3	UP	.....	I	Russ	D	8.8	32	Lav	36x4	36x6	E-O	Fir	4400	144	75
Case TR.	.....	Own K	4¼x5¾	28.9	H	C	Mod	C	S	Bent	G	Own	T-D	.....	Eis	.....	Own	U	3	Spic	Har	I	Torb	D	8	26	Opt	36x6	38x7	.....	Fir	5900	144	78
Collier 20	.....	Cont C4	4⅛x5¼	27.2	T	P	Lng	PT	FS	Zen	V	Pier	Full	DP	Eis	.....	Full	U	4	UP	Math	W	Timk	½Fl	8.5	40.8	Ros	36x4	36x7	Bim	Fir	4800	152	70
Commerce 16	2150	Cont N	3¾x5	22.5	L	T	Lng	Fin	S	Zen	V	.....	B-Li	DP	Eis	Bj	B-Li	U	4	Spic	Am	I	Torb	D	7	28.8	Jac	35x5	36x6	Bim	Fir	3360	137	90
Concord AX	3250	Buda ITU	4 x5½	25.6	L	C	Bus	PT	F	Zen	G	Mon	B-Li	DP	Eis	.....	B-Li	U	4	Spic	Per	W	Timk	½Fl	8.75	35	Ros	36x3½	36x5	Arc	Fir	5000	150	70
*Corbitt C-22	2600	Cont C4	4⅛x5¼	27.2	L	C	McC	Fin	FS	Strm	V	Sim	B-Li	DD	Eis	.....	B-Li	U	3	Hart	Shel	W	Shel	½Fl	8.66	29.4	Ros	36x3½	36x6	Bim	Fir	5125	148	75
Day Elder D.	2400	Cont C2	4⅛x5¼	27.2	L	C	Bus	Fin	FS	Zen	G	Mon	Covt	DD	Eis	.....	Covt	U	4	Hart	IC	W	Shel	½Fl	8.66	41.17	Gem	36x4	36x7	Jon	Fir	4250	144	70
Dearborn 48	2590	Buda WU	3¾x5⅛	22.5	L	T	Chic	Fin	FS	Strm	V	.....	Full	DP	Bos	.....	Full	U	3	Hart	.....	W	Wis	½Fl	9.6	28.8	Dit	34x4½*	34x7	.....	.....	3750	148	70
Defiance E.	2275	Hig	3¾x5	22.5	L	P	Per	C	FS	Strm	...	.....	B.B.	DP	Eis	AL	G-Le	U	3	Arv	Det	I	Torb	D	8	24	Own	35x5*	38x7*	StM	Fir	3500	140	85
Denby 134	2600	Cont N¾	3¾x5	22.5	L	T	Lng	PT	FS	Strm	G	Mon	Full	DD	Eis	.....	Full	U	4	Up	Det	I	Russ	D	8.85	42.5	Ros	36x3½	36x6	Hay	Fir	3950	144	75.5
Dependable D 2	2650	Buda ITU	4 x5½	25.6	L	C	Lng	Fin	F	Zen	V	Mon	Full	DD	Spl	AL	Full	U	3	Acm	Per	W	Wis	½Fl	8.5	35.75	Ros	36x4	36x7	Bim	Fir	5300	144	70
*Diamond T-U	2650	Hin	4 x5¼	25.6	L	C	GO	Fin	F	Strm	V	Own	Covt	DD	Bos	.....	Covt	U	4	Spic	Math	W	Timk	Flot	7.8	36.81	Gem	36x4	36x7	.....	.....	4800	160	....
Dorris K4	3400	Own	4¼x5½	28.9	H	C	McC	Fin	F	Strm	G	Own	Own	DP	Bos	.....	W-Gr	A	4	Spic	Row	W	Timk	Flot	7.75	38.67	Ros	36x4	36x7	Smi	Fir	5150	162	70
Douglas H	2550	Buda HTU	4¼x5½	28.9	L	C	Own	PT	F	Sheb	V	Pier	Full	DP	Eis	.....	Full	U	3	Arv	Own	I	Torb	D	8.50	28.1	Ros	34x4	36x7	Own	Fir	3900	128	65
Douglas HW-2	2650	Buda HTU	4¼x5½	28.9	L	C	Own	PT	F	Sheb	V	Pier	Full	DP	Eis	.....	Full	U	3	Arv	Own	W	Wis	.....	8.75	29.1	.....	34x4	36x7	Own	Fir	3950	132	65
Drake T-60	2785	H-Sp-11000	3¼x5	25.3	L	C	.....	C	FS	Zen	V	Mon	B.B.	.....	Ber	Bj	G-Le	U	3	UM	GC	W	Wis	½Fl	Op	......	Woh	35x5*	36x6*	Day	Fir	3600	140	80
Duplex A.	2775	Hink HAA	4 x5¼	25.6	L	P	Mod	PT	F	Strm	G	.....	Covt	DD	Wes	W	Covt	U	3	Pet	Penn	W	Shel	½Fl	.....	......	Ros	35x5*	38x7*	Pru	.....	4000	145	....
Duty 2	1490	Gr-B	3½x5	19.6	I	T	Own	C	FS	Zen	G	.....	Covt	DP	Spl	.....	Covt	U	3	Acm	Det	I	Russ	D	8.2	30.01	Dit	34x3½	34x5	Stn	Fir	3350	134	70
Eagle 100	2275	Buda CTU	3¾x5¼	22.5	L	P	Own	C	F	Zen	G	.....	Covt	DD	Eis	.....	Covt	U	3	M-E	Cham	I	Russ	D	8.8	31.8	Lav	34x4	34x7	Stn	Fir	4100	130	75
Fargo R.	2500	Cont N	3¾x5	22.5	L	T	Own	Fin	S	Rayf	G	.....	Full	DP	Bos	.....	Full	U	4	Spic	Shel	I	Russ	D	9.5	......	Jac	36x4	36x6	.....	.....	3900	144	80
*Federal UE	2425	Cont C4	4⅛x5¼	27.2	L	C	Own	PT	FS	Zen	G	Phar	B.B.	DP	Eis	.....	Own	A	4	Spic	Math	W	Timk	Flot	9.25	40.7	Gem	36x4	36x7	Sch	Fir	4800	156	71.5
Forschler D	.....	Cont C4	4⅛x5¼	27.2	L	C	E-M	.....	FS	Zen	...	Dup	Full	.....	Bos	Op	Full	...	3	Hart	Own	W	Shel	.....	.....	......	Ros	34x4	36x7	Smi	.....	4425	144	....
Fulton C.	2350	HSp7000	3½x5	19.6	L	T	GO	H	FS	Cart	G	.....	Covt	DP	Ber	.....	Covt	...	3	UP	.....	I	Russ	D	10.2	......	Lav	34x4	34x6	Hoo	.....	3300	137	68
Garford 70 H	.....	Buda HTU	4¼x5½	28.9	L	C	Own	Fin	F	Strm	G	Sim	.....	DD	Spl	.....	Own	A	4	Spic	Per	W	Timk	Flot	7.75	......	Ros	36x4	36x7	.....	.....	5300	144	....
G. M. C. K-41	3000	Own	4 x5½	25.6	L	B	Own	Fin	F	Mar	G	Own	Own	DD	Eis	Opt	Own	U	7	Own	Det	W	Timk	Flot	7.25	49.1	Own	36x4	36x7	Own	.....	5030	Op	Opt
*Gramm-Bernstein 20	2925	Cont C2	4⅛x5¼	27.2	L	C	Own	Fin	S	Strm	G	Pier	Full	DD	NE	NE	Own	A	4	Own	Per	W	Shel	½Fl	7.7	36.7	Ros	36x4	36x7	Bim	Fir	5050	144	91
Hal-Fur D	2000	Hin HA-400	4 x5½	25.6	L	C	GO	PT	F	Strm	V	Hin	B.B.	P	Bos	W	B-Li	A	4	Pet	Per	W	Timk	½Fl	5.5	24	Gem	35x5*	36x6	Stn	Fir	3400	Op	70
Holmes 4 W.D.	3500	Hin HAA-400	4 x5¼	25.6	L	C	.....	C	F	Strm	V	.....	Full	P	Bos	W	Full	U	4	.....	Tut	W	Eat	Flot	7.25	90	Lav	38x7	38x7	Gdy	Own	5400	144	55
Indiana 20	.....	Own 38	4⅛x5½	27.2	L	C	McC	Fin	F	Strm	G	Pier	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Shel	½Fl	7.7	39.5	Woh	36x4	36x7	Day	.....	5360	150	68
International 41	2100	Own	3½x5¼	19.6	L	C	Own	Fin	FS	Ens	G	Own	Own	DP	Bos	Own	Own	A	3	Own	.....	I	Own	D	9	30	Own	36x3½	36x5	Own	.....	3525	128	50
Italia	3800	Buda HTU	4¼x5½	28.9	L	C	Mod	ZZT	F	Strm	V	Pier	Full	D	Eis	.....	Full	A	4	Spic	Shel	W	Shel	½Fl	.....	......	Ros	36x4	36x7	Smi	.....	5800	148	85
Jumbo 20	2675	Buda CTU	3¾x5¼	22.5	L	C	Own	Fin	F	Zen	G	.....	Full	D	NE	NE	Full	U	3	Arv	Per	I	Cl	D	7.6	30.4	Jac	35x5*	38x7*	.....	.....	4510	144	75
Keystone 2	2450	Buda WU	3¾x5⅛	22.5	L	C	McC	PT	S	Zen	G	Pier	Full	DD	Ber	.....	Full	U	3	Spic	Row	I	Russ	D	8.8	26.6	Ros	34x5*	38x7*	Hoo	Gdy	4000	144	75
*Kimball B.	3675	Wis TAU	4 x6	25.6	L	C	Eag	PT	F	Mas	V	Sim	B-Li	DP	Spl	W	B-Li	A	4	Spic	US	W	Shel	½Fl	6.75	26	Woh	36x3½	36x7	Smi	Fir	4750	Op	66
Kleiber BB.	.....	Cont C4	4⅛x5¼	27.2	L	C	Per	C	FS	Strm	G	Pier	.....	WD	Bos	.....	B-Li	A	4	Spic	.....	W	Timk	Flot	7.75	37.51	Ros	36x4	36x7	Smi	.....	5600	153	75
Lange B.	3350	Cont C4	4⅛x5¼	27.2	L	T	Own	H	S	Strm	G	Pier	M-E	D	Bos	.....	Cott	A	3	M&E	Per	C	Own	D	9.22	46.6	Gem	36x4	36x6	Hoo	Opt	5200	148	90
*Luedinghaus K.	2790	Wau RU4R	4¼x5¾	28.9	L	G	Own	PT	FS	Sheb	G	Wau	B.B.	.....	Spl	.....	Det	U	3	Spic	Tut	W	Wis	½Fl	8.6	26.6	Lav	36x4	36x7	Bim	.....	4400	145	75
*Luedinghaus K-LS	2890	Wau RU4R	4¼x5¾	28.9	L	C	Own	PT	FS	Sheb	G	Wau	B.B.	.....	Spl	.....	Det	U	3	Spic	Tut	W	Wis	.....	8.6	26.6	Lav	36x4	36x7	Bim	.....	4500	170	75
Luverne BBL	1800	GBS	3¾x4¼	22.5	L	C	.....	C	S	Sheb	G	.....	.....	D	Bos	Dy	Det	U	3	UP	.....	I	......	D	8	30	Lav	34x4*	34x5	Own	Fir	.....	136	....
Maccar H-A	3100	Cont K-4	4⅛x5¼	27.2	L	C	Own	Fin	F	Zen	G	Mue	B-Li	DD	Eis	.....	B-Li	U	4	Spic	Mer	W	Timk	Flot	8.5	45.47	Ros	36x4	36x4†	Day	.....	5200	162	....
Mack AB2	3300	Own AB	4 x5	25.6	L	C	Own	C	S	Sheb	G	Own	Own	DD	Tea	.....	Own	U	4	Spic	Mer	C	Own	D	6.9	28.01	Own	36x4	36x4†	Sch	.....	5100	Op	71
Mack AB2	3750	Own AB	4 x5	25.6	L	C	Own	C	S	Sheb	G	Own	Own	DD	Tea	.....	Own	U	4	Spic	Mer	R	Own	Flot	7.6	34.09	Own	36x4	36x4†	Sch	.....	5200	Op	75.5
Menominee D.	.....	Wis TAU	4 x6	25.6	L	C	Own	Fin	FS	Strm	G	Mon	Det	DP	Eis	Opt	Cott	U	4	Spic	Tut	W	Wis	.....	8.6	45.13	Ros	36x4	36x8*	Stn	Fir	4870	144	76
Mutual 2B	.....	Wis TAU	4 x6	25.6	L	G	GO	PT	F	Strm	G	Dup	H-S	D	Bos	W	Cott	A	4	M-E	Mat	W	Shel	½Fl	7.7	40.2	Ros	36x4	36x8	Smi	.....	6000	152	71
Nash 3018	2550	Own 4	3¾x5¼	22.5	L	C	.....	.....	F	Strm	G	Sim	B.B.	DP	Eis	AL	.....	A	4	Own	Mat	I	Cl	D	9	39.6	Lav	34x4	34x6	AuW	.....	3850	144	73.5
Nash Quad 4017	3250	Buda HU	4¼x5½	28.9	L	C	.....	.....	F	Strm	G	Sim	B.B.	DP	Eis	.....	.....	A	4	Spic	Mat	I	Own	D	8.5	42.3	Lav	36x5	36x5	.....	.....	6250	124	55
*Netco DK	‡3100	Cont K4	4⅛x5¼	27.2	L	C	R-T	PT	S	Zen	V	.....	B-Li	DP	Eis	.....	B-Li	A	4	Eas	Per	W	Timk	Flot	9.25	36	Ros	36x4	36x7	Arc	Gdy	5200	150	80
Niles E.	3000	Cont C4	4⅛x5¼	27.2	L	C	Mod	Own	FS	Strm	G	Mon	B.B.	D	Eis	.....	Covt	A	3	Bld	IC	W	Timk	Flot	8.5	28	Gem	36x4	36x7	Hoo	Fir	5800	140	....
Noble C40	2675	Buda ITU	4 x5½	25.6	L	C	Chic	Fin	F	Strm	G	Pier	Full	DP	Eis	W	Full	U	3	M-E	Tut	W	Shel	½Fl	8.7	31.1	Lav	36x4	36x7	Bim	Fir	4900	160	85
Northway B2.	3400	Own	4 x6	25.6	H	C	GO	C	F	Strm	V	Pier	Full	DP	Wag	Bj	Full	U	4	Spic	Per	W	Shel	½Fl	7.7	37.2	Ros	36x4	36x4†	Cla	.....	6000	Op	77
Oshkosh AA4	3850	H-Sp2700	3½x5	19.6	L	T	Own	C	FS	Zen	V	Dup	B-Li	DP	NE	NE	B-Li	U	4	Pet	Tut	B	Own	Flot	8.2	33	Ros	36x6*	36x6*	Bim	Fir	4200	165	60
Oshkosh A4.	3750	H-Sp2700	3½x5	19.6	L	T	Own	C	FS	Zen	V	Dup	B-Li	DP	NE	NE	B-Li	U	4	Pet	Tut	B	Own	Flot	8.2	33	Ros	36x6*	36x6*	Bim	Fir	4200	130	60
Packard EC.	3500	Own	4$\frac{1}{16}$x5½	28.1	L	C	.....	Fin	F	Own	P	Own	Own	DP	Spl	Bj	Own	A	4	Spic	.....	W	Own	Flot	7.25	33.3	Own	36x4	36x7	.....	.....	5050	144	48.2
Packard EX.	4000	Own	4$\frac{1}{16}$x5½	28.1	L	C	.....	Fin	F	Own	P	Own	Own	DP	Spl	Bj	Own	A	4	Spi	.....	W	Own	Flot	7.25	33.3	Own	36x6*	40x8*	.....	.....	5200	144	46.7
Parker F20	3500	Wis TAU	4 x6	25.6	L	C	Own	PT	F	Strm	V	Pier	B-Li	DD	Eis	W	Full	A	4	Bld	Tut	W	Own	Flot	7.75	37.2	Ros	36x6*	40x8*	Bim	.....	5400	150	71
Pierce Arrow X5.	3200	Own	4 x5½	25.6	T	C	.....	Fin	F	Strm	F	Own	.....	DD	Del	Opt	.....	A	4	.....	.....	W	......	.....	8.33	43.3	.....	36x4	36x4†	Day	.....	6400	150	75
Rainier R18	2890	Cont C2	4⅛x5¼	27.2	L	T	Har	H	FS	Zen	V	Mon	B-Li	DP	Eis	.....	B-Li	U	3	Hart	Per	W	Shel	.....	8.7	28.83	Ros	34x4	34x6	.....	Fir	3850	153	80
*Ranger TK-22-2	.....	Wis CAU	3¾x5	22.5	L	C	Bus	Fin	F	Zen	G	Sim	Full	PT	Spl	.....	Full	U	3	UP	Stan	W	Tim	½Fl	9.25	29.97	Dit	36x6*	38x7*	Bim	Fir	3700	136	40
Rowe CD W2	3300	Wis EAU	4 x5	25.6	L	C	Fed	H	F	Zen	G	Sim	B-Li	DP	Bos	.....	B-Li	U	4	Spic	Shel	W	Shel	½Fl	7.7	31	Ros	34x4	36x3½†	Hoo	.....	4500	142	76.6
Sandow I.	2675	Cont N¾	3¾x5	22.5	L	G	Own	Fin	FS	Strm	G	.....	.....	DD	Eis	.....	Full	U	3	Spic	GC	I	Torb	D	10	30	Ros	36x4	36x6	Stn	.....	3800	150	70
*Schacht	.....	Buda ETU	4¼x5½	28.9	L	G	Own	PT	F	Sheb	G	Dup	BB	D	Bos	.....	Own	A	4	M&E	Nat	W	Own	Flot	.....	......	Own	36x4	36x7	StM	.....	6200	156	70
*Service 31	.....	Buda IU	4 x5½	25.6	L	C	McC	Fin	F	Strm	V	.....	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	½Fl	7.75	37.5	Ros	36x3½	36x6	Bim	.....	4850	150	65
*Service 36	.....	Buda HU	4¼x5½	28.9	L	C	McC	Fin	F	Strm	V	.....	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Timk	½Fl	7	33.8	Ros	35x5*	38x7*	Bim	Fir	4900	150	65
*Southern 20	2990	Buda HTU	4¼x5½	28.9	L	T	Own	PT	S	Zen	...	Pier	Full	DD	Bos	.....	Full	U	4	.....	Shel	W	Shel	.....	.....	......	Ros	36x4	40x8	.....	.....	.....	150	70

‡Chassis only

Trade Name and Model	Chassis Price	ENGINE DETAILS: Make and Model Number 4 Cylinder unless otherwise noted	Bore and Stroke	N.A.C.C. Horsepower	Valve Arrange't	How Cooled	Radiator (Make)	Radiator (Type)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Clutch (Make)	Clutch (Type)	Ignition System	Engine Starter	GEARSET: Make	Location	Speeds	Universal (Make)	Springs (Make)	REAR AXLE: Final Drive	Make	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight	Wheelbase	Pr. Cent of Weight on Rear Wheels
2 Ton—Con'd		1		2	3	4	5	6	7	8	9	10	11	12	13	14	15		16	17	18	19	20			21			22	23			
Sterling 2	3085	Ster FU	4x5¾	25.6	L	C	Own	C	F	Zen	V	Wau	B-Li	DD	Eis	.....	B-Li	U	4	Spic	Mat	W	Timk	Flot	7.7	41.19	Ros	36x4	36x6	Pru	.....	6020	142	94
Stewart 7	2800	Cont C2	4⅛x5¼	27.2	L	G	Bus	Fin	FS	Zen	G	Pier	Full	DP	Eis	.....	Full	U	3	Hart	Det	I	Cl	D	9	27	Ros	34x4†	34x7†	Cla	Fir	4460	156	72
Stoughton D	2800	Her CU3	4 x5½	25.6	L	C	Own	Fin	F	Strm	G	Dup	B-Li	DD	Eis	.....	B-Li	U	4	Ther	Shel	W	Shel	½Fl	8.66	35	Lav	36x4	36x7	Bim	Gdy	4600	140	70
Superior E	2600	Cont C2	4⅛x5¼	27.2	L	A	Idl	C	F	Strm	V	Pier	Full	DD	Eis	.....	Full	U	3	Arv	Tut	I	Torb	D	8	23.2	Ros	36x4	36x6	Sch	Fir	3600	144	75
Traffic 4000C	1595	Cont N4	3¾x5	22.5	L	T	Own	C	FS	Cart	G	.....	Covt	DP	Bos	.....	Covt	U	3	Ther	Det	I	Russ	D	7	25.62	Own	34x3½	34x5	Opt	Fir	3175	132	85
Traylor C	2850	Buda ITU	4 x5½	25.6	L	P	GO	Fin	F	Zen	G	Pier	Covt	DD	Spl	.....	Covt	U	3	M-E	Mer	W	Shel	½Fl	7.75	.....	Ros	36x4	36x7	Sch	.....	5100	146	75
Triangle C	2700	Wau BUX	3¾x5¼	22.5	L	C	Per	ZZT	FS	Strm	G	Wau	Full	DD	Eis	.....	Full	U	3	UP	Det	I	Cl	D	9.1	27	Gem	36x4	36x7	Roy	Fir	4200	147	60
Triumph 2	2550	Buda CTU	3¾x5¼	22.5	L	C	Mod	PT	F	Kng	V	Pier	B.B.	D	Spl	.....	Cott	U	4	UP	Tut	W	Wis	½Fl	7.75	40.3	Lav	36x4	36x7	Stn	Stn	5000	144	70
*Twin City 2	.....	Buda ITU	4x5½	25.6	L	C	Mod	H	F	Strm	V	Sim	Full	D	Bos	.....	Full	U	3	Arv	Math	I	Cl	D	8	32	Ros	36x6*	40x8*	Bim	Fir	4800	150	80
Ultimate AJ	3250	Buda HTU	4¼x5½	28.9	L	C	Own	PT	F	Strm	G	Pier	B-Li	DD	Eis	Bos	B-Li	U	4	Spic	Shel	W	Shel	.....	6.5	.....	Ros	35x5*	38x7*	Jon	Fir	4500	156	72
Ultimate AJL	3300	Buda HTU	4¼x5½	28.9	L	C	Own	PT	F	Strm	G	Pier	B-Li	DD	Eis	Bos	B-Li	U	4	Spic	Shel	W	Shel	.....	6.5	.....	Ros	35x5*	38x7*	Jon	Fir	4590	156	72
Vim 22	3150	Her C2	3¾x5½	22.5	L	P	McC	Fin	F	Zen	G	Dup	B-Li	D	Spl	.....	B-Li	U	4	Spic	Shel	W	Shel	.....	7.7	.....	Gem	36x4	36x6	Smi	.....	4700	142	.....
Walter N	3750	WauCU	4 x5¾	25.6	L	C	Bus	PT	F	Strm	G	Wau	B-Li	D	Eis	W	War	A	4	Own	.....	.....	Own	Flot	7.25	36	Gem	36x6*	40x8*	.....	.....	5000	144	70
White 20	3250	Own	3¾x5½	22.5	L	C	.....	C	FS	Own	G	.....	Own	D	.....	.....	Own	A	4	Own	.....	R	Own	½Fl	.....	.....	Own	36x4	36x7	.....	Fir	4500	157	.....
*Wichita M	2800	Wau BX	3¾x5¼	22.5	L	G	.....	PT	F	Strm	G	Wau	Own	C	Wag	.....	B-Li	A	4	Own	Det	W	Shel	½Fl	8.6	45.03	Ros	36x3½	36x6	Bim	Fir	4400	144	80
Winther 49	3250	Wis EAU	4 x5	25.6	L	G	Brm	PT	F	Mas	V	.....	B.B.	DP	Eis	W	B-Li	A	4	Bld	Math	I	Cl	D	9	39	Ros	34x4	34x4†	Own	.....	5300	150	80
Wisconsin (Loganville)	1700	GBS	3¾x4¼	22.5	L	T	.....	.....	FS	Sheb	.....	.....	.....	WP	Bos	Dy	Det	U	3	UP	Har	I	Torb	D	8.	.....	Lav	34x5*	36x6*	.....	.....	3200	136	.....
*Witt Will P	2750	Cont C4	4⅛x5¼	27.2	H	G	Mod	Opt	FS	Zen	G	Pier	B-Li	DD	Eis	.....	B-Li	U	3	Spic	Del	W	Tim	Flot	7.75	.....	Ros	36x3½	36x7	Arc	.....	5000	144	70
Wolverine J	2640	Cont J	3¾x5	22.5	L	C	.....	.....	F	Strm	G	Phar	.....	D	Eis	Bj	.....	U	3	UP	Tut	I	Russ	D	8.2	12.2	Gem	34x4	34x7	Hay	Gdy	3800	148	70
*Young 6	2750	Cont K-4	4⅛x5¼	27.2	L	C	Whee	Fin	F	Sch	G	.....	B-Li	D	Eis	.....	B-Li	U	3	Spic	Math	W	Timk	Flot	.....	.....	Ros	36x4	36x7	StM	.....	4500	144	75
2½ Ton																																		
Acason H	.....	Wau CU	4⅛x5¾	30.6	L	P	Can	C	FS	Sheb	V	Wau	Det	.....	Eis	.....	Cott	A	4	Bld	Det	W	Timk	Flot	7.75	40.3	Ros	36x4	36x8	Smi	Opt	5400	150	.....
Ace 2½	.....	Buda HU	4¼x5½	28.9	L	C	Mod	ZZT	F	Zen	V	Pier	Full	DP	Eis	W	Full	A	4	UM	Math	W	Timk	Flot	8.50	34	Ros	36x4	36.7	Day	Fir	5630	156	80
*Acme AC	.....	Cont L4	4½x5½	32.4	L	C	.....	Fin	F	Rayf	V	Dup	B.B.	DP	Eis	DL	Cott	U	4	Bld	Det	W	Timk	Flot	6.	31.2	Ros	36x4	36x7	Bim	.....	5050	156	50
American	3350	Wis	4 x6	25.6	L	G	GO	Fin	F	Strm	G	Own	Det	D	Apo	.....	Cott	U	4	Acm	SP	W	Thom	Flot	8.33	.....	Ros	36x4	34x4†	.....	.....	5000	158	.....
Apex E	2695	Buda HU	4¼x5½	28.9	L	C	GO	C	F	Strm	V	Dup	Full	D	Eis	Op	Full	U	4	Spic	Math	W	Timk	Flot	9.25	49.5	Ros	36x4	36x7	StM	.....	4900	148	.....
*Armleder HW	.....	Buda HTU	4¼x5½	28.9	L	P	Lng	Fin	F	Zen	G	Phar	B-Li	DD	Bos	W	B-Li	U	4	Spic	Math	W	Timk	Flot	9.25	49.5	Ros	36x4	36x7	StM	.....	4900	148	.....
*Armleder HW	.....	Cont C4	4⅛x5¼	27.2	L	C	Lng	PT	S	Zen	G	.....	B-Li	DD	Bos	.....	Full	A	4	Hart	Shel	W	Wis	.....	8.7	41.6	Ros	36x4	36x7	Smi	.....	4900	150	.....
Atco A	.....	Bud HU	4¼x5½	28.9	L	C	Chic	PT	F	Strm	G	Pier	Full	D	Eis	.....	Full	A	4	Hart	Shel	W	Wis	.....	8.7	41.6	Ros	36x4	36x7	Smi	.....	4900	150	.....
Atterbury 7CX LWB	3275	Cont C4	4⅛x5¼	27.2	L	C	Own	Fin	S	Zen	G	Mon	B-Li	DD	Ber	.....	B-Li	U	4	Spic	SP	W	Timk	Flot	9.25	44.77	Gem	36x4	36x4†	Arc	Fir	5520	171	74.5
Atterbury 7CX STD	3175	Cont C4	4⅛x5¼	27.2	L	C	Own	Fin	S	Zen	G	Mon	B-Li	DD	Ber	.....	B-Li	U	4	Spic	SP	W	Timk	Flot	9.25	44.77	Gem	36x4	36x4†	Arc	Fir	5360	153	74.5
Available 2½	3160	Her CU3	4 x5½	25.6	L	C	Chic	Fin	FS	Strm	V	Pier	B-Li	DD	Bos	.....	B-Li	A	4	M-E	Tut	W	Timk	Flot	7.75	40.3	Ros	36x4	36x8	Sch	.....	4750	152	75
Bell O	2550	Buda	4¼x5½	28.9	L	C	Chic	PT	F	Strm	V	Dup	B.B.	DP	Eis	.....	Det	U	3	UP	Det	I	Russ	D	8	38.4	Gem	34x4	34x7	Bim	Fir	4200	146	65
Bessemer J2	.....	Cont C4	4⅛x5¼	27.2	L	C	.....	C	FS	Strm	G	Pier	B.B.	DP	Bos	.....	B-Li	A	4	Arv	Per	I	Torb	D	8	32	Ros	36x4	36x4†	Sch	Fir	4600	158	67
Bridgeport 2½B	2850	Buda HTU	4¼x5½	28.9	L	G	Own	Fin	FS	Strm	G	Pier	B.B.	D	Eis	.....	B-Li	U	4	Hart	Per	W	Timk	Flot	8.25	.....	Ros	36x4	36x4†	Jon	Fir	5500	156	70
*Brinton F	2250	Cont C4	4⅛x5¼	27.2	L	C	Chic	PT	F	Strm	G	Pier	B-Li	D	Bos	.....	B-Li	U	3	Spic	Tut	W	Timk	Flot	.....	33.6	Ros	36x4	36x6	Smi	.....	4600	150	.....
Brockway K5	.....	Cont K4	4⅛x5¼	27.2	L	C	Bus	Fin	F	Strm	V	Phar	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Mer	W	Timk	Flot	7.75	41.5	Gem	36x4	36x8	Hoo	.....	5260	153	70
Capitol H 2½	3700	WisUAU	4¼x6	28.9	L	C	GO	Fin	F	Strm	G	Sim	Det	DD	Bos	.....	Cott	U	4	Spic	Sp	W	Wis	½Fl	8.66	45	Ros	36x4	36x8	.....	.....	5200	156	85
Capitol K2½	4250	Wis UAU	4¼x6	28.9	L	C	GO	Fin	F	Strm	G	Sim	Det	DD	Bos	W	Cott	U	4	Spic	SP	W	Wis	½Fl	7.25	37.7	Ros	36x6*	42x9*	.....	Fir	5100	156	85
Chicago C2½	.....	Her CU3	4 x5½	25.6	L	C	.....	PT	F	Strm	G	Sim	B-Li	D	Bos	.....	B-Li	U	4	Pet	Math	W	Timk	Flot	8.5	34	Gem	36x4	36x7	Opt	Stn	4500	156	.....
Clydesdale 65EX	3450	Cont	4½x5½	32.4	L	C	Own	PT	FS	Zen	G	Own	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Stan	W	Timk	Flot	8.5	41.1	Ross	36x4	36x7	Smi	.....	5800	163	73
Clydesdale 65 X	3250	Cont	4⅛x5¼	27.2	L	C	Own	PT	FS	Zen	G	Own	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Stan	W	Timk	Flot	8.5	41.1	Ros	36x4	36x7	Smi	.....	5700	163	73
Collier 22	.....	Cont C4	4⅛x5¼	27.2	T	P	Lng	PT	FS	Zen	V	Pier	Full	DP	Eis	.....	Full	U	4	UP	Math	W	Timk	Flot	8.5	40.8	Ros	36x4	36x4†	Bim	Fir	5445	165	70
Columbia G	2850	Hink HAA	4 x5¼	25.6	L	C	Lng	Fin	F	Strm	V	Hink	M-E	DP	Spl	.....	Cott	A	4	Spic	Per	I	Russ	D	9.5	48.8	Own	36x4	36x7	Det	Fir	4400	148	40
Commerce 18	2495	Cont C	4½x5¼	26.2	L	C	Lng	Fin	S	Zen	V	.....	B&B	DP	Eis	Bj	B-Li	U	4	Spic	Am	I	Torb	D	7	28.8	.....	36x6	38x7	.....	Fir	.....	149	90
Concord B	3600	Buda HTU	4¼x5½	28.9	L	C	Bus	PT	F	Zen	G	Mon	B-Li	DP	Eis	.....	B-Li	U	4	Spic	Per	W	Timk	Flot	9.25	37	Ros	36x4	36x8	Arc	Fir	5400	150	70
*Corbitt B-22	2800	Cont C4	4⅛x5¼	27.2	L	C	McC	Fin	FS	Strm	V	Sim	B-Li	DD	Eis	.....	B-Li	U	4	Hart	Shel	W	Shel	½Fl	8.7	35	Ros	36x4	36x7	Bim	Fir	5325	152	75
Dart M	.....	Buda HU	4¼x5½	28.9	L	C	Own	C	F	Zen	G	Pier	Full	DD	Eis	.....	Full	U	4	Spic	Per	W	Own	.....	8.5	40.8	Ros	36x4	36x7	Pru	.....	4800	150	80
Day Elder C	2750	Buda HTU	4¼x5½	28.9	L	C	Bus	Fin	F	Zen	G	Mon	Covt	DD	Eis	.....	Covt	A	4	Hart	IC	W	Shel	½Fl	8.75	41.56	Gem	36x4	36x7	Jon	Fir	5000	150	70
Dependable E 2½	2950	Buda HTU	4¼x5½	28.9	L	C	Lng	Fin	F	Zen	V	Mon	Full	DD	Spl	AL	Full	A	4	Acm	Per	W	Wis	½Fl	8.6	40	Ros	36x4	36x7	Bim	Fir	5800	155	70
Doane 2½	4100	Wau RU	4¼x5¾	28.9	L	C	Own	PT	S	Mas	G	Wau	B-Li	DD	Bos	.....	B-Li	A	3	Own	Own	C	Own	D	7.7	30.8	Lav	36x5	36x7	Wes	.....	5000	147	79
*Erie 2½	3185	Buda ETU	4¼x5½	28.9	L	C	Fed	C	FS	Strm	G	Dup	Full	D	Bos	.....	Full	A	4	Spic	Per	W	Shel	.....	7.75	15.3	Ros	36x4	36x8†	Way	Fir	5760	150	80
*Facto	2295	Buda ETU	4¼x5½	28.9	L	C	Bus	PT	FS	Zen	V	Pier	Full	D	Spl	.....	Full	A	4	Spic	SP	W	Timk	Flot	7.75	33.9	Ros	36x4	36x8	Smi	Fir	5800	155	.....
Fageol 2½	3900	Wau RU	4¼x5¾	28.9	L	C	Mod	C	F	Zen	V	Wau	Det	DD	Spl	.....	Own	A	5	Spic	Math	W	Timk	Flot	5.6	59.5	Ros	36x4	36x7	Stn	.....	4600	144	80
Gary J	3150	Buda HTU	4¼x5½	28.9	L	C	Chic	Fin	F	Mas	G	McC	Full	DD	Eis	.....	Full	U	4	Hart	Det	W	Timk	Flot	8.5	41	Ros	36x4	36x7	Pru	Gdy	4850	148	70
Gersix K	3500	Buda HTU	4¼x5½	28.9	L	C	Idl	C	F	Strm	V	Mon	B.B.	.....	Bos	.....	Cott	U	3	Bld	Tut	W	Own	.....	9.6	39	Ros	36x4	36x8	Jon	.....	5200	150	75
Giant 16	3150	Cont C4	4⅛x5¼	27.2	L	P	Own	.....	FS	Sheb	G	Mon	B-Li	DD	Eis	.....	B-Li	U	3	Spic	Math	W	Timk	Flot	8.8	29.09	Ros	36x4	36x7	Way	.....	4500	168	90
Giant 16	3050	Cont C4	4⅛x5¼	27.2	L	P	Own	.....	FS	Sheb	G	Mon	B-Li	DD	Eis	.....	B-Li	U	3	Spic	Math	W	Timk	Flot	8.8	29.9	Ros	36x4	36x7	Way	.....	4500	144	90
Gove A1	.....	Cont C4	4⅛x5¼	27.2	L	C	.....	C	S	Stew	V	Pier	Full	D	Eis	.....	Full	U	4	Hart	Det	I	Torb	D	8	38.4	Lav	36x4	36x7	Pru	.....	4400	144	.....
*Gramm-Bernstein 25	3275	Hink HA500	4¼x5½	28.9	L	C	Own	Fin	F	Strm	V	Hink	Own	DD	Eis	NE	Own	A	4	Own	Per	W	Eat	½Fl	7.7	36.7	Ros	36x4	36x4†	Smi	Fir	6800	150	91.3
Hall 2½ Worm	.....	Cont C4	4⅛x5¼	27.2	L	P	Own	H	FS	Zen	G	Dup	B-Li	DP	Bos	.....	Full	A	4	Ther	Tut	W	Timk	Flot	7.7	37.2	Ros	36x4	36x7	Stn	.....	.....	Op	80
Hendrickson N	3150	Buda HU	4¼x5½	28.9	L	C	Chic	Pt	F	Strm	G	McC	Full	D	Spl	.....	Full	U	4	Spic	Shel	W	Shel	.....	8.75	30.	Ros	36x4	36x4†	Sch	Gdy	5310	154	.....
H. R. L., H	3650	Hink HAA	4 x5¼	25.6	L	C	Fed	Fin	F	Zen	V	Hink	B-Li	DP	Bos	GD	B-Li	U	4	Spic	Shel	W	Shel	.....	8.75	30.	Ros	36x4	36x4†	Sch	Gdy	5310	154	.....
Hurlburt 2½	.....	Buda HU	4¼x5½	28.9	L	C	Own	.....	F	Flch	G	Dup	B-Li	D	Eis	.....	B-Li	U	3	Spic	Per	W	Own	.....	.....	.....	Ros	36x4	36x4	Way	.....	5600	170	85
Huron-Michigan	.....	Buda ETU	4¼x5½	28.9	L	C	.....	Fin	F	Zen	V	Pier	B.B.	D	Bos	.....	Cott	U	4	Det	Det	I	Cl	D	8	41.6	Jac	36x6*	40x8*	AuW	Fir	.....	156	90
Independent HI (Iowa)	2940	Cont C4	4⅛x5¼	27.2	L	C	GC	PT	FS	Strm	V	.....	Full	DD	Bos	.....	Full	U	4	Bld	GC	I	Russ	D	10	.....	Lav	36x4	36x7	StM	Fir	4950	156	75
Independent H (Ohio)	3085	Cont K4	4⅛x5¼	27.2	L	G	Lng	PT	F	Strm	G	.....	Full	DP	Eis	.....	Full	U	4	Spic	Math	W	Wis	.....	9.6	39	Ros	36x4	36x8†	.....	.....	4600	148	85
Indiana 25	.....	Own 38	4½x5½	27.2	L	C	McC	Fin	F	Strm	G	Pier	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Shel	½Fl	7.75	39.5	Woh	36x4	36x8	Day	.....	5850	156	73
Jumbo 25	3090	Buda HU	4¼x5½	28.9	L	C	Own	Fin	F	Zen	V	Sim	Full	D	NE	.....	Full	A	4	Arv	Per	I	Cl	D	9	43.2	Jac	36x4	36x7	Day	.....	5190	152	75
Kalamazoo H	3275	Wis TAU	4 x6	25.6	L	G	GO	PT	F	Strm	V	Pier	Full	D	Bos	Dy	Full	A	4	Acm	Shel	W	Shel	½Fl	8.75	42.8	Ros	36x4	36x8	Smi	.....	6200	160	80
Kelly Springfield K35	3250	Own	3¾x5¼	22.5	L	C	Lng	Fin	F	Zen	G	Pier	Own	C	Eis	W	Covt	A	3	Own	Per	C	Own	D	10.6	35.11	Gem	36x4	36x4†	StM	.....	5000	Op	89
Kelly Springfield K36	3250	Own	3¾x5¼	22.5	L	C	Lng	Fin	F	Zen	G	Pier	Own	C	Eis	W	Covt	A	3	Spic	Per	W	Shel	½Fl	10.3	34.02	Gem	36x4	36x4†	StM	.....	5145	Op	89
*Kimball C	3975	Wis UAU	4¼x6	28.9	L	C	Eag	PT	F	Mas	V	Sim	B-Li	DP	Spl	W	B-Li	A	4	Spic	US	W	Shel	½Fl	7.75	37.31	Woh	36x4	36x8	Smi	Fir	5000	Op	66

Kissel Freighter	2875	Own 50000*	4¼x5½	28.9	L	C	McC	PT	S	Strm	V	Pier	W-Gr	DP	Eis	.....	W-Gr	A	4	Spic	Mat	W	Timk	Flot	8.5	42.5	Jac	36x4	36x7	Pru	.....	5100	168	74
Kleiber B.	......	Cont E4	4½x5½	32.4	L	C	RT	PT	FS	Strm	G	Sim	.....	WD	Bos	.....	B-Li	A	4	Spic	.....	W	Timk	Flot	7.75	37.51	Ros	36x5	36x8	Sm	.....	6000	160	75
Koehler M.	3175	Her	4 x5⅛	25.6	L	G	Own	PT	F	Zen	G	Sim	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Math	W	Timk	Flot	9.25	37	Lav	36x4	36x7	Way	.....	5050	162	75
Koehler MCS	3275	Her	4 x5⅛	25.6	L	G	Own	PT	F	Zen	G	Sim	B-Li	DD	Eis	.....	B-Li	A	4	.....	Math	W	Timk	Flot	9.25	37	Lav	36x4	36x7	Way	.....	5000	150	75
Larrabee-Deyo K	3200	Cont C4	4⅛x5¼	27.2	L	C	Bus	Fin	S	Sheb	G	Sim	B-Li	DD	Bos	.....	B-Li	A	4	Opt	Mer	W	Shel	½Fl	8.7	35	Ros	36x4	36x7	Hoo	.....	5700	176	....
*Maccar H2	3400	Cont L4	4½x5½	32.4	L	C	Own	Fin	F	Strm	G	Mue	B-Li	DD	Eis	.....	B-Li	U	4	Spic	Mer	W	Timk	Flot	7.75	41.46	Ros	36x4	36x5†	Day	Fir	5700	162	70
Mack AB	3400	Own A B	4 x5	25.6	L	C	Own	C	S	Sheb	G	Own	Own	D	Tea	.....	Own	U	4	Spic	Mer	C	Own	D	6.99	28.01	Own	36x4	36x4†	Sch	.....	5200	Op	66
Mack AB	3850	Own A B	4 x5	25.6	L	C	Own	C	S	Sheb	G	Own	Own	D	Tea	.....	Own	U	4	Spic	Mer	R	Own	Flot	9.25	37.10	Own	36x4	36x4†	Sch	.....	5300	Op	66
*Master D	3540	Buda HU	4¼x5½	28.9	L	C	Chic	PT	FS	Mas	V	McC	Full	DP	Eis	.....	Full	U	4	Spic	Det	R	Walk	Flot	8.75	42	Ros	34x4	36x7	Wal	.....	4500	144	76
*Master DL	3640	Buda HU	4¼x5½	28.9	L	C	Chic	PT	FS	Mas	V	McC	Full	DP	Eis	.....	Full	U	4	Spic	Det	R	Walk	Flot	8.75	42	Ros	34x4	36x7	Wal	.....	4600	170	80
*Master W	3290	Buda HU	4¼x5½	28.9	L	C	Chic	PT	FS	Mas	V	McC	Full	DP	Eis	.....	Full	U	4	Spic	Det	W	Timk	Flot	8.5	42	Ros	34x4	36x7	Pru	.....	4500	144	76
*Master WL	3390	Buda HU	4¼x5½	28.9	L	C	Chic	PT	FS	Mas	V	McC	Full	DP	Eis	.....	Full	U	4	Spic	Det	W	Timk	Flot	8.5	42	Ros	34x4	36x7	Pru	.....	4600	170	80
Moreland 21C	3500	Cont L4	4½x5½	32.4	L	C	Own	C	F	Mas	P	.....	Own	DD	Spl	.....	Own	A	5	Ther	US	W	Timk	Flot	6.8	40.94	Ros	36x4	36x8	Smi	.....	5880	160	....
Mutual 2 BP	......	Wis TAU	4 x6	25.6	L	G	GO	PT	F	Strm	G	Dup	HS	D	Bos	W	Cott	A	4	M-E	Math	W	Shel	½Fl	7.7	40.2	Ros	38x7*	42x9*	Day	Fir	6000	152	71
*Nelson & LeMoon G2½	......	Cont C4	4⅛x5¼	27.2	L	C	Chic	Fin	S	Strm	G	Phar	B-Li	DD	Bos	W	B-Li	U	3	Own	Tut	W	Timk	Flot	7.7	......	Lav	36x4	36x7	Pru	Gdy	4100	Op	80
*Netco HL	‡3500	Cont L-4	4½x5½	32.4	L	C	RT	PT	S	Zen	V	.....	B-Li	DP	Eis	.....	B-Li	A	4	Eas	Per	W	Timk	Flot	7.75	39	Gem	36x4	36x8	Arc	Gdy	5750	168	75
Noble D50	2950	Buda HTU	4¼x5½	28.9	L	C	Chic	Fin	F	Strm	G	Pier	Full	DP	Eis	W	Full	A	4	M-E	Tut	W	Shel	½Fl	8.7	42	Lav	36x4	36x8	Bim	Fir	5700	176	85
Ogden E2½	......	Cont C 2	4⅛x5¼	27.2	L	C	Chic	Fin	FS	Strm	G	Pier	B-Li	DD	Bos	.....	B-Li	A	4	M-E	Tut	W	Shel	.....	8.7	......	Gem	36x4	36x8	Stn	.....	5600	160	70
O. K. 2½ T	3450	Buda HTU	4¼x5½	28.9	L	G	RT	PT	FS	Zen	V	Pier	Full	DD	Eis	.....	Full	U	4	Hart	Cham	W	Wis	½Fl	9.66	41.5	Ros	36x4	36x8	Bim	.....	5350	150	....
Old Reliable B	3500	Wis UAU	4¼x6	28.9	L	C	Chic	PT	FS	Strm	V	Mon	Full	DD	Bos	.....	Full	A	4	Spic	Shel	W	Shel	½Fl	8.25	37.2	Ros	34x4	36x4†	StM	.....	5850	160	70
*Olympic J	3200	Buda HTU	4¼x5½	28.9	L	C	Lng	ZZT	F	Zen	V	Pier	B-Li	D	Bos	Opt	B-Li	U	4	Ther	Lig	W	Timk	Flot	7.75	31	Ros	36x4	36x7	StM	Opt	5200	158	75
*Oneida C9	3200	Oneida	4 x5¼	25.6	L	C	Mod	C	F	Strm	V	Hin	Full	DP	Opt	....	Full	A	4	Pet	Math	W	Wis	½Fl	8.6	41.6	Ros	38x7*	40x8	...	.....	5495	160	....
Oshkosh B	4150	Her CU 3	4 x5⅛	25.6	L	G	Own	PT	F	Strm	V	Dup	B-Li	DP	NE	NE	B-Li	U	4	Pet	Tut	B	Own	Flot	8	43	Ros	38x7	38x7	Roy	Fir	5400	136	60
Oshkosh BB	4300	Her CU 3	4 x5⅛	25.6	L	G	Own	PT	F	Strm	V	Dup	B-Li	DP	NE	NE	B-Li	U	4	Pet	Tut	B	Own	Flot	11	63	Ros	40x8	40x8	Roy	Fir	5800	165	55
Paige 54-20	3400	Hin HA500	4¼x5½	28.9	L	C	Own	Fin	F	Strm	V	Sim	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Per	W	Shel	½Fl	8.7	42.35	Ros	34x4	34x8	Day	Fir	5200	150	85
Pittsburgh B	3500	Cont C4	4⅛x5¼	27.2	L	C	GC	Fin	F	Strm	V	Mon	B-Li	DP	Bos	.....	B-Li	U	4	Spic	IC	W	Shel	.....	8.7	35.8	Ros	36x5	36x7	Smi	.....	5500	160	67.5
Rainier R-20	3550	Cont K-4	4⅛x5¼	27.2	L	G	EM	Fin	F	Zen	V	Pier	B-Li	DP	....	.....	B-Li	A	4	Spi	.....	W	Timk	Flot	.....	......	Ros	34x4	34x7	Way	.....	5000	165	....
Rainier R-20	3650	Cont K-4	4⅛x5¼	27.2	L	G	EM	Fin	F	Zen	V	Pier	B-Li	DP	....	.....	B-Li	A	4	Spi	.....	W	Timk	Flot	.....	......	Ro	34x4	34x7	Way	.....	5000	....	....
Reliance 20B	3100	Buda HTU	4¼x5½	28.9	L	C	Bus	PT	FS	Strm	G	Pier	Full	DD	Eis	.....	Cott	A	4	Pet	Shel	P	Badg	D	7.5	39	Ros	36x4	36x4†	Bim	Gdy	5500	156	90
*Republic 19	2195	Cont C2	4⅛x5¼	27.2	L	C	Own	C	FS	Strm	G	Phar	Full	DD	Bos	.....	Full	U	4	Spic	Math	I	Torb	D	8	38.4	Jac	36x4	36x7	Nor	Fir	4175	144	....
Sandow J	3275	Cont C4	4⅛x5¼	27.2	L	G	.....	Fin	FS	Strm	G	Mon	B.B.	DD	Bos	.....	B-Li	U	4	Spic	GC	W	Timk	Flot	9.2	31	Ros	36x4	36x7	Stn	.....	4500	165	70
Sanford W25	3350	Cont C4	4⅛x5¼	27.2	L	G	McC	Fin	F	Strm	G	Pier	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Per	W	Shel	½Fl	8.7	34.8	Ros	36x4	36x4†	Hoo	Fir	5330	156	75
Schwartz CWS	3200	Buda HTU	4¼x5½	28.9	L	C	Fed	H	F	Strm	G	Mon	Full	DP	Bos	.....	Full	U	4	M-E	Row	W	Shel	½Fl	8.75	42	Ros	36x4	36x8	Sch	Fir	5400	132	....
Schwartz CW	3200	Buda HTU	4¼x5½	28.9	L	C	Fed	H	F	Strm	G	Mon	Full	DP	Bos	.....	Full	U	4	M-E	Row	W	Shel	½Fl	8.75	42	Ros	36x4	36x8	Sch	Fir	5400	150	....
Schwartz CWL	3300	Buda HTU	4¼x5½	28.9	L	C	Fed	H	F	Strm	G	Mon	Full	DP	Bos	.....	Full	U	4	M-E	Row	W	Shel	½Fl	8.75	42	Ros	36x4	36x8	Sch	Fir	5400	168	....
*Selden 2½A	3425	Cont C4	4⅛x5¼	27.2	L	C	Lng	Fin	FS	Strm	G	Pier	B-Li	D	Eis	.....	B-Li	A	4	Spic	Per	W	Timk	Flot	7.75	41.46	Gem	36x4	36x7	Stn	.....	5400	145	52
Service 51	......	Buda HU	4¼x5½	28.9	L	C	.....	Fin	F	Strm	V	.....	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Timk	Flot	7.75	37.5	Ros	36x4	36x7	Bim	.....	5180	160	70
*Signal J	2947½	Cont C4	4⅛x5¼	27.2	L	C	McC	Fin	FS	Strm	G	Pier	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	9.25	37	Ros	34x4	36x8	StM	.....	5240	150	73
Signal JL	3015	Cont C-4	4⅛x5¼	27.2	L	C	McC	Fin	FS	Strm	G	Pier	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	9.25	37	Ros	34x4	36x8	StM	.....	5240	180	....
Standard 76	2400	Cont C2	4⅛x5¼	27.2	L	C	Lng	Fin	F	Strm	G	Mon	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Per	W	Timk	Flot	8.5	34	Ros	36x4	36x7	.....	.....	4430	140	71
Sterling 2½	3290	Ster CU	4⅜x5¾	30.6	L	C	Own	C	F	Zen	V	Wau	B-Li	DD	Eis	.....	B-Li	U	4	Spic	Math	W	Timk	Flot	7.7	41.19	Ros	36x4	36x4†	Pru	.....	6050	156	92.5
*Stewart 7X	2950	Buda HTU	4¼x5½	29.	L	G	Bus	PT	FF	Zen	G	Pier	Full	DP	Eis	.....	Full	U	4	Hart	Det	I	Cl	D	9.	43.2	Ros	34x4†	34x7†	CL	Fir	.....	156	72
Success B	2850	Cont C4	4⅛x5¼	27.2	L	G	.....	H	F	Zen	...	Mon	Full	D	Eis	.....	Full	...	4	UP	Shel	W	Shel	.....	8.7	..	Lav	34x4	36x7	.....	.....	4700	144	80
Super Truck 50	3300	Wis	4 x6	25.6	L	C	Chic	Fin	F	Zen	G	Sim	Full	DD	Bos	.....	Full	U	4	Ther	Shel	W	Shel	½Fl	8.75	42	Lav	36x4	36x8	Bim	.....	5200	156	59
Tiffin MW	3100	Cont C4	4⅛x5¼	27.2	L	C	Own	Fin	FS	Sheb	G	Pier	Full	DD	Bos	W	Full	U	4	Pet	Kal	W	Shel	.....	8.7	41.7	Ros	36x4	36x3½†	Smi	.....	4890	148	80
Titan. 2½	3400	Buda HTU	4¼x5½	28.9	L	C	BW	ZZT	F	Strm	G	Sim	B.B.	DP	Eis	.....	Cott	U	4	Pet	Shel	I	Cl	D	8	42	Woh	34x4	36x4†	Bim	.....	5300	156	70
Tower H2½	3200	Cont C4	4⅛x5¼	27.2	L	C	Own	PT	S	Strm	G	Pier	Full	DP	Eis	.....	Full	U	3	Spic	Det	W	Timk	Flot	9.2	37	Ros	36x4	36x7	Pru	Gdy	5230	146	70
Transport 50	2785	Buda HTU	4¼x5½	28.9	L	C	Mod	C	F	Strm	G	Dup	Full	DD	Eis	.....	Full	U	4	Hart	Det	I	Cl	D	8.15	39	Jac	36x4	36x7	.....	Fir	4250	150	70
Triangle B	2950	Wau FU	4 x5¾	25.6	L	C	Whee	PT	F	Strm	G	Wau	Full	DD	Eis	.....	Full	U	4	UP	Det	I	Cl	D	9.1	42	Gem	36x4	36x7	Roy	Fir	4900	150	60
*Triumph HB-2½	2900	Buda CTU	3¾x5¼	22.5	L	C	Mod	PT	F	King	V	Pier	B.B.	D	Spl	.....	Cott	U	4	UP	Tut	W	Wis	½Fl	7.75	40.3	Lav	36x4	36x7	Stn	Stn	4900	144	70
Ultimate B	3750	Buda HTU	4¼x5½	28.9	L	C	Own	PT	F	Strm	G	Pier	B-Li	DD	Eis	Bos	B-Li	U	4	Spic	Shel	W	Shel	.....	7.75	......	Ros	36x4	36x8	Jon	Fir	5340	166	72
Union F	3150	Wis TAU	4 x6	25.6	L	G	GO	Fin	F	Sheb	G	Dup	Full	DD	Eis	LN	Full	U	4	UP	Math	I	Russ	D	7.8	37.4	Ros	36x5	36x8	Pru	.....	5800	155	70
Union FW	3490	Wis TAU	4 x6	25.6	L	G	GO	Fin	F	Sheb	G	Dup	Full	DD	Eis	LN	Full	U	4	UP	Math	R	Walk	.....	7.86	37.7	Ros	36x5	36x8	Pru	.....	5900	155	70
United B2½	3150	Buda HTU	4¼x5½	28.9	L	C	Mod	.....	F	Strm	G	Sim	Full	DD	Eis	Op	Full	A	4	Bld	Bea	I	Cl	D	8.15	39.12	Jac	36x4	36x7	Pru	.....	4940	151	70
Ursus V-50	3250	Buda ETU	4¼x5½	28.9	L	...	.....	PT	FS	Strm	...	Pier	B-Li	DP	Spl	.....	B-Li	...	4	Ther	.....	W	Timk	Flot	.....	......	Ros	Opt	Opt	Roy	.....	.....	Op	....
Vulcan 25	4500	Wis U A U	4¼x6	28.9	L	C	.....	.....	F	Zen	G	Pier	B-Li	D	Eis	.....	B-Li	...	4	Spic	Shel	W	Shel	½Fl	Op	Op	Ros	36x6*	40x8*	Smi	.....	6200	Op	Opt
Walker-Johnson B	......	Buda HU	4¼x5½	28.9	L	G	Bus	PT	F	Zen	G	Pier	B-Li	D	Eis	.....	Opt	A	4	Spic	Per	W	Timk	Flot	.....	......	Ros	36x4	36x8	Arc	.....	5000	150	70
Walter M	3850	Wau CU	4 x5¾	25.6	L	C	Bus	PT	F	Strm	G	Wau	B-Li	D	Eis	W	War	A	4	Own	.....	R	Own	.....	7.25	36	Ros	36x6*	40x8*	.....	.....	5100	168	65
Ward LaFrance 2B	3590	....	4⅜x5¾	30.6	L	C	Own	Fin	F	Strm	G	.....	B-Li	DP	Bos	.....	B-Li	A	4	M-E	Mer	W	Timk	Flot	7.75	41.46	Ros	36x4	36x4†	Hoo	.....	5900	158	85
White Hickory K	......	Cont C2	4⅛x5¼	27.2	L	C	Chi	Fin	FS	Strm	V	Sim	Full	DD	Eis	.....	Full	U	4	M-E	Shel	W	Timk	Flot	8.5	40.8	Lav	36x4	36x7	Bim	Fir	4650	150	78
*Wichita R.	3000	Wau BX	3¾x5¼	22.5	L	G	.....	PT	F	Strm	G	Wau	Own	C	Wag	.....	B-Li	A	4	Own	Det	W	Shel	½Fl	10.33	55.45	Ros	36x4	36x7	Smi	Fir	4500	144	80
*Wilcox CC	......	Own	4¼x5	28.9	L	G	.....	PT	S	Strm	G	Dup	Own	C	Bos	.....	Own	A	4	Own	Shel	R	Walk	½Fl	8.6	42.35	Own	36x4	36x3½†	....	.....	5000	135	75
Wilson EA	2825	Own	4 x5⅛	25.6	H	G	Lng	PT	FS	Mar	G	Pier	B.B.	D	Eis	.....	Own	A	4	Ther	Per	W	Timk	Flot	7.7	31	Ros	36x4	36x7	.....	.....	4625	152	80
Winther 50	3995	Wis TAU	4 x6	25.6	L	G	Brm	PT	F	Mar	V	.....	Full	DD	Eis	W	Full	U	4	Bld	Math	I	Cl	D	9.	......	Ros	38x7*	42x9*	Own	.....	5900	110	85
Winther 450	3690	Wis-EAU	4 x5	25.6	L	G	Brm	PT	F	Strm	G	.....	Full	DD	Eis	W	Full	U	3	Pet	Math	I	Cl	D	9	36	Lav	34x4	36x6	Cla	.....	4300	150	60
*Wisconsin (Loganville)	2600	Cont 9N-6	3½x5¼	29.3	L	T	.....	.....	FS	Zen	...	.....	B.B.	DP	Bos	Dy	Det	U	3	UP	Har	I	Torb	D	8.	......	Lav	36x6*	38x7*	.....	.....	4200	140	....
*Wisconsin D (Sauk City	3500	Wau DU	4½x6¼	32.4	L	C	Chic	PT	F	Strm	V	Wau	B-Li	DD	Eis	Opt	B-Li	A	4	Spic	Det	W	Timk	Flot	9.25	......	Lav	36x6	36x10	Bim	Gdy	6200	160	80
Wolverine K	3425	Cont K	4⅛x5¼	27.2	L	C	.....	PT	F	Strm	G	Phar	Full	D	Eis	Bj	Full	U	4	UP	Am	I	Russ	D	9.4	13.4	Gem	36x5	36x6	Cla	Gdy	4150	168	72

3 Ton

Concord BX	3600	Buda HTU	4¼x5½	28.9	L	C	Bus	PT	F	Zen	G	Mon	B-Li	DP	Eis	.....	B-Li	U	4	Spic	Per	W	Timk	Flot	9.25	37.	Ros	36x4	36x8	Arc	Fir	5400	170	70
Corbitt R-22	3200	Cont E-4	4½x5¼	32.4	L	C	McC	Fin	FS	Strm	V	Sim	B-Li	DD	Eis	.....	B-Li	U	4	Hart	Shel	W	Shel	½Fl	8.75	......	Ros	36x4	36x8	Bim	.....	5600	158	75
Denby 25	3300	Cont C2	4⅛x5¼	27.2	L	C	Lng	PT	FS	Strm	G	Mon	Full	DD	Eis	.....	Full	U	4	UP	Det	I	Russ	D	9.4	45.3	Ros	36x4	36x7	Smi	Fir	4920	150	79
Douglas I 3	3250	Buda HTU	4¼x5½	28.9	L	C	Own	PT	F	Sheb	V	Pier	Full	DP	Eis	.....	Full	U	4	Arv	Own	W	Wis	.....	9.1	41	Ros	36x5	36x8	Own	Fir	4750	136	66⅔
Forschler E	......	Cont C4	4⅛x5¼	27.2	L	C	EM	.....	FS	Zen	...	Dup	Full	.....	Bos	.....	Full	...	4	Hart	Own	W	Shel	.....	.....	......	Ros	36x4	36x8	Smi	.....	4725	144	....
F. W. D., B	......	Wis A	4¾x5½	36.1	T	C	McC	PT	F	Strm	G	Pier	HS	D	Eis	.....	Cott	A	3	Bld	Tut	B	Own	Flot	8.9	35.6	Ros	36x6	36x6	Sch	.....	6300	124	55
Gersix L	4500	Buda YTU	4½x6	32.4	L	C	Idl	C	F	Strm	V	Mon	B.B.	.....	Bos	.....	Cott	A	4	Bld	Tut	W	Shel	.....	10.2	53.3	Ros	36x5	40x12	Jon	.....	7100	170	70
*Gramm Bernstein 30	4225	Hink HA200	4½x5½	32.4	L	C	Own	Fin	F	Strm	V	Hink	Own	DD	Eis	NE	Own	A	4	Own	Per	W	Eat	½Fl	9.5	45	Ros	36x6*	42x9*	Smi	Fir	6800	150	91.3
International 61	2400	Own	4¼x5	28.9	H	T	Own	Fin	FS	Ens	G	Own	Own	DP	Spl	Own	Own	A	3	Own	.....	I	Own	D	9	30	Own	36x4	36x6	Own	.....	4500	138	50
Italia	4500	Buda HTU	4¼x5½	28.9	L	C	Mod	ZZT	F	Strm	V	Pier	Full	D	Eis	.....	Full	A	4	Spic	Shel	W	Shel	½Fl	.....	......	Ros	36x4	36x10	Smi	.....	6600	156	85
Jumbo 30	3590	Buda HU	4¼x5½	28.9	L	C	Own	Fin	F	Zen	V	Sim	Full	D	NE	.....	Full	U	4	Arv	Per	I	Cl	D	9	43.2	Jac	36x6*	42x9*	Cla	.....	5350	152	75
*Kimball K	4500	Wis VAU	4½x6	32.4	L	C	Eag	PT	F	Mas	V	Sim	B-Li	DP	Spl	W	B-Li	A	4	Spic	US	W	Shel	½Fl	7.75	37.31	Woh	36x4	36x5†	Smi	Fir	5200	Op	66
Luverne Express	2650	Cont	3½x5¼	29.4	L	G	.....	C	FS	Zen	V	.....	B.B.	D	Bos	Dy	Det	U	3	UP	.....	I	Torb	D	.....	......	Lav	36x6	38x7	Own	Fir	.....	140	....
Packard ED	4100	Own	4½x5½	32.4	L	C	.....	Fin	F	Own	P	Own	Own	DP	Spl	Bj	Own	A	4	Spic	.....	W	Own	Flot	9.0	41.3	Own	36x5	36x5	.....	.....	7000	156	52.1
Riker B	4600	Own	4¼x6	28.9	T	C	.....	Fin	FS	B&B	G	Own	Own	C	Ber	W	Own	A	4	Own	.....	W	Own	.....	10	42.5	Ros	36x5	36x5†	.....	.....	6157	150	75
Rowe GPW3	5250	H-Sp8 VA	3¼x5	33.8	L	C	Fed	H	F	Zen	V	.....	B-Li	DP	AtK	W	B-Li	U	4	Spic	Shel	W	Shel	½Fl	7.7	31	Ros	38x7*	42x9*	Hos	.....	5500	170	71.8
Rowe GSW3	4150	Wis TAU	4 x6	25.6	L	C	Fed	H	F	Zen	G	Sim	B-Li	DP	Bos	.....	B-Li	U	4	Spic	Shel	W	Shel	½Fl	7.7	31	Ros	36x5	36x5†	Hos	.....	4800	162	68.5
*Schacht	......	Buda ETU	4¼x5½	28.9	L	G	Own	PT	F	Sheb	G	Dup	B.B.	D	Bos	.....	Own	A	4	M-E	Nat	W	Own	Flot	.....	......	Own	36x4	36x4†	StM	.....	6700	156	70

‡Chassis Only

Trade Name and Model	Chassis Price	ENGINE DETAILS: Make and Model Number 4 Cylinder unless otherwise noted	Bore and Stroke	N. A. C. C. Horsepower	Valve Arrange't	How Cooled	Radiator (Make)	Radiator (Type)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Clutch (Make)	Clutch (Type)	Ignition System	Engine Starter	GEARSET: Make	Location	Speeds	Universal (Make)	Springs (Make)	REAR AXLE: Final Drive	Make	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight	Wheelbase	Pr. Cent of Weight on Rear Wheels
3 Ton—Con'd		1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	•	16	17	18	19	20			21			22	23			
Stoughton F	3600	Her MU2	4¼x5½	28.9	L	C	Own	Fin	F	Strm	G	Dup	B-Li	DD	Eis	.....	B-Li	U	4	Ther	Shel	W	Shel	½Fl	8.75	35	Lav	36x5	36x5†	Bim	Gdy	5900	158	70
Traffic 6000	1895	Cont N4	3¾x5	22.5	L	T	Own	C	FS	Cart	G	.....	Covt	DP	Bos	.....	Covt	U	3	Ther	Det	I	Russ	D	8.8	32.2	Own	36x4	36x7	Opt	Fir	3250	135	85
Traylor D	3300	Buda HTU	4¼x5½	28.9	L	P	GO	Fin	F	Zen	G	Pier	M-E	DD	Spl	.....	Own	...	4	M-E	Mer	W	Shel	½Fl	7.7	.....	Ros	36x4	36x8	Sch	.....	5850	150	75
Ultimate BL	3850	Buda HTU	4¼x5½	28.9	L	C	Own	PT	F	Strm	G	Pier	B-Li	DD	Eis	Bos	B-Li	U	4	Spic	Shel	W	Shel	½Fl	7.75	.....	Ros	36x4	36x8	Jon	Fir	5590	178	72
*U. S., R	.....	Own	4 x5¼	25.6	L	C	Lng	Fin	F	Strm	V	Own	B-Li	DD	Eis	Op	B-Li	A	4	Opt	Shel	W	Shel	½Fl	8.7	41.5	Lav	36x4	36x4†	Sch	.....	5500	156	85
Vim 23	3950	Her M2	4¼x5½	28.9	L	P	McC	Fin	F	Zen	G	Dup	B-Li	D	Spl	.....	B-Li	A	4	Spic	Shel	W	Shel	½Fl	7.7	.....	Gem	36x5	36x5†	Smi	.....	6370	175	....
*Wichita RX	3600	Beav JA	4¼x6	28.9	H	G	.....	PT	F	Strm	G	Dup	Own	C	Wag	.....	B-Li	A	4	Own	Det	W	Shel	½Fl	8.75	45.5	Ros	36x4	36x8	Smi	Fir	5900	160	80
3½ Ton																																		
Acason L	.....	Wau CU	4¾x5¾	30.6	L	G	Can	C	FS	Sheb	V	Wau	Det	.....	Eis	.....	Cott	A	4	Bld	Det	W	Timk	Flot	8.75	48.5	Ros	36x5	36x5†	Smi	Opt	7000	180	....
*Acme C	.....	ContL4	4½x5½	32.4	L	C	GO	Fin	F	Rayf	V	Dup	B.B.	DP	Eis	DL	Cott	A	4	Bld	Det	W	Timk	Flot	10.3	53.73	Ros	36x5	40x10	Bim	.....	6983	168	50
Apex F	3975	Buda YTU	4½x6	32.4	L	C	GO	C	F	Strm	V	Dup	Full	D	Eis	Opt	Full	A	4	Bld	Det	I	Torb	D	10.5	.....	Woh	36x5	36x10	Roy	Fir	6940	168	....
*Armleder KW	.....	Buda YTU	4½x6	32.4	L	P	Own	Fin	F	Zen	G	Phar	B-Li	DD	Bos	.....	B-Li	U	4	Spic	Math	W	Timk	Flot	10.33	55.25	Ros	36x5	36x5†	StM	.....	6900	156	....
*Armleder K W	.....	Cont E4	4½x5½	32.4	L	C	Own	Fin	S	Zen	G	.....	B-Li	DD	Bos	.....	B-Li	U	4	Spic	Math	W	Timk	Flot	10.33	55.25	Ros	36x5	36x5†	StM	.....	6900	156	....
Atterbury 7D-LWB	4075	Cont E4	4½x5½	32.4	L	C	Own	Fin	S	Zen	G	Mon	B-Li	DD	Ber	.....	B-Li	U	4	Spic	SP	W	Timk	Flot	10.3	49.85	Gem	36x5	40x5†	Arc	Fir	7270	192	76
Atterbury 7D-Standard	3975	Cont E4	4½x5½	32.4	L	C	Own	Fin	S	Zen	G	Mon	B-Li	DD	Ber	.....	B-Li	U	4	Spic	SP	W	Timk	Flot	10.3	49.85	Gem	36x5	40x5†	Arc	Fir	6950	167	76
Autocar Y	4350	Own Y	4½x5½	28.9	L	C	Own	Fin	S	Strm	G	.....	Own	DP	.....	.....	Own	A	4	.....	.....	R	Own	Flot	8.7	52.2	Ros	34x5	36x10	Hoo	.....	7000	120	65
Autocar B	4500	Own B	4½x5½	28.9	L	C	Own	Fin	S	Strm	G	.....	Own	DP	.....	.....	Own	A	4	.....	.....	R	Own	Flot	8.7	52.2	Ros	34x5	36x10	Hoo	.....	7150	156	65
Available H3½	4175	Her MU3	4½x5½	32.4	L	C	Chic	Fin	FS	Strm	V	Pier	B-Li	DD	Bos	.....	B-Li	A	4	M-E	Tut	W	Timk	Flot	10.33	49.99	Ros	36x5	40x5†	Sch	.....	6500	176	75
Belmont D	.....	4 x6	25.6	L	...	...	...	...	...	Zen	...	Pier	B.B.	DP	...	...	...	U	4	.....	Math	...	...	...	...	...	...	38x7*	42x9*	...	...	.....	162	....
Bridgeport 4C	3850	Buda YTU	4½x6	32.4	L	G	Own	Fin	FS	Strm	G	Pier	B.B.	D	Eis	.....	B-Li	A	4	Hart	Per	W	Eat	.....	10	.....	Ros	36x5	36x10	Jon	Fir	9000	170	70
Brockway R-4	.....	Cont L4	4½x5½	32.4	L	C	Bus	Fin	F	Strm	V	Phar	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Mer	W	Timk	Flot	8.75	46.8	Gem	36x5	36x5†	Smi	.....	6800	164	70
Capitol M-3½	4425	Wis UAU	4¼x6	28.9	L	C	GO	Fin	F	Strm	G	Sim	Det	DD	Bos	.....	Cott	A	4	Spic	SP	W	Wis	½Fl	9	46.8	Ros	36x5	36x10	Smi	.....	6400	168	85
Chicago C3½	.....	Her MU3	4½x5½	32.4	L	C	.....	PT	FS	Strm	G	Sim	B-Li	D	Bos	.....	B-Li	A	4	Pet	Math	W	Timk	Flot	10.33	50	Gem	36x5	36x10	Opt	Sta	6900	168	....
Clydesdale 90	4100	Cont	4½x5½	32.4	L	C	Own	PT	FS	Zen	G	Own	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Stan	W	Timk	Flot	10.33	55.2	Ros	36x5	40x10	Smi	.....	7500	170	78
Couple Gear HC	6100	Wis	5.1x5½	41.9	T	C	Idl	H	F	Strm	G	.....	.....	.....	Eis	.....	Own	.....	...	Own	Tut	B	Own	.....	.....	.....	Own	36x4†	36x4†	Own	Own	9000	144	57
Dart W	.....	Buda YTU	4½x6	32.4	L	C	Own	C	F	Zen	G	Pier	Full	DD	Eis	.....	Full	A	4	Spic	Per	W	Own	.....	8.7	52.5	Ros	36x5	36x10	Pru	.....	6740	160	75
Day Elder F	3150	Cont E4	4½x5½	32.4	L	C	Bus	Fin	FS	Zen	G	Mon	B-Li	DD	Eis	.....	B-Li	U	4	Hart	IC	W	Shel	½Fl	10.25	41	Gem	36x5	36x5†	Jon	Fir	5750	165	70
Dependable G 3½	3550	Buda YTU	4½x6	32.4	L	C	Lng	Fin	F	Zen	V	Mon	Full	DD	Spl	AL	Full	A	4	Acm	Per	W	Wis	½-Fl	10	47.61	Ros	36x6	36x10	Bim	Fir	6000	160	75
*Diamond T-K	3750	Hin	4¼x5½	28.9	L	C	GO	Fin	F	Strm	V	Own	Covt	DD	Bos	.....	Covt	A	4	Spic	Math	W	Timk	Flot	8.8	44.36	Gem	36x5	36x5†	.....	.....	7250	170	....
Doane 3½	5100	Wau CU	4¾x5¾	30.6	L	C	Own	PT	F	Mas	G	Wau	B-Li	DD	Bos	.....	B-Li	U	3	Own	Own	C	Own	D	9.5	38	Lav	36x5	36x5†	Wes	.....	7000	169	79
Dorris K7	4400	Own	4¼x5½	28.9	H	C	McC	Fin	F	Strm	G	Own	Own	DP	Bos	.....	W-Gr	A	4	Spic	Row	W	Timk	Flot	10.33	51.5	Ros	36x5	36x10	Smi	.....	6750	194	70
Duplex E	4250	Buda TU	4¼x5½	28.9	H	C	Lng	ZZT	FS	Sheb	V	Dup	B-Li	DD	Eis	.....	B-Li	U	4	Pet	Tut	I	Own	D	8	64	Woh	36x8	36x8	Pru	.....	6075	130	60
Fageol 3½	5000	Wau DU	4¼x6¼	32.4	L	C	Mod	C	F	Zen	V	Wau	Det	DD	Spl	.....	Own	A	5	Spic	Math	W	Timk	Flot	7.4	79	Ros	36x5	40x5	Stn	.....	7300	172	80
*Federal WE	3150	Cont E4	4½x5½	32.4	L	C	Own	Fin	FS	Zen	G	Phar	B.B.	DP	Eis	.....	Own	A	4	Spic	Math	W	Timk	Flot	10.33	51.56	Gem	36x5	36x5†	Smi	Fir	6990	156	74.5
Garford 77D	.....	Buda YTU	4½x6	32.4	L	C	Own	Fin	F	Strm	G	Sim	.....	DD	Spl	.....	Own	A	4	Spic	Per	W	Timk	Flot	8.7	.....	Ros	36x5	36x5†	Smi	.....	7700	162	....
Gary KT	4050	Buda YTU	4½x6	32.4	L	C	Chic	Fin	F	Mas	G	McC	B-Li	DD	Eis	.....	B-Li	A	4	Hart	Det	W	Timk	Flot	10.33	41.32	Ros	36x5	40x5†	Pru	.....	7000	162	70
Giant 17	4150	Cont E4	4½x5½	32.4	L	P	Own	.....	B	Strm	G	Mon	.....	DD	Eis	.....	B-Li	A	4	Spic	Shel	W	Timk	Flot	10.25	49.61	Ros	36x5	36x5†	Way	.....	6800	176	70
G. M. C. K-71	4250	Own	4½x6	32.4	L	B	Own	Fin	F	Mar	G	Own	Own	DD	Eis	Opt	Own	A	7	Own	Det	W	Timk	Flot	8.75	75.2	Own	36x5	40x5†	Own	.....	7714	Op	Opt
*Gramm-Bernstein 35	3995	Hink HA200	4½x5½	32.4	L	C	Own	Fin	F	Strm	V	Hink	Own	DD	Eis	NE	Own	A	4	Own	Per	W	Shel	½Fl	8.7	50.6	Ros	36x5	40x5†	Smi	Fir	8350	156	91.7
Hal-Fur B	3000	Hin HA-500	4¼x5½	28.9	L	G	GO	PT	F	Strm	V	Hin	B.B.	P	Bos	W	B-Li	A	4	Pet	Per	W	Timk	Flot	7.75	57.4	Gem	36x6	Opt	Smi	Fir	5000	Op	70
Hal-Fur F	4000	Hin AA 1600	4½x5½	32.4	H	T	GO	PT	F	Strm	V	Hin	B.B.	DP	Bos	W	Own	A	4	Pet	Mer	W	Timk	Flot	10.33	72	Gem	36x6	40x10	.....	.....	6500	180	70
Hall 3½ Worm	.....	Cont E4	4½x5½	32.4	L	T	Own	PT	FS	Zen	G	Dup	B-Li	DP	Bos	.....	B-Li	A	4	Opt	Det	W	Timk	Flot	10	.....	Gem	36x5	36x5†	Smi	.....	6825	144	....
Hendrickson M	3975	Buda HTU	4¼x5½	28.9	L	C	Chic	Pt	F	Strm	G	McC	Full	D	Spl	.....	Full	A	4	Ther	Tut	W	Timk	Flot	10	49.6	Ros	36x5	36x5..	Stn	.....	.....	Op	80
Hurlburt	.....	Buda YTU	4½x6	32.4	L	C	Own	...	FS	Flch	G	Dup	B-Li	D	Eis	.....	B-Li	A	4	Spic	Per	W	Own	Flot	8.7	41.91	Ros	36x5	36x5	Way	.....	7400	156	....
Independent K, (Ohio)	3985	Cont L4	4½x5½	32.4	L	G	Lng	PT	...	Strm	G	.....	Full	DP	Eis	.....	Full	U	4	Spic	Mat	W	Wis	.....	10	48	Ros	36x5	36x10†	.....	.....	5400	160	85
Indiana 35	.....	Own 40	4¾x5½	30.6	L	G	McC	Fin	F	Strm	G	Pier	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Shel	½Fl	10.2	54.84	Woh	36x5	36x5†	Smi	.....	7050	160	75
Jackson B	3850	Cont E4	4½x5½	32.4	L	G	Lng	Fin	FS	Strm	V	Pier	B.B.	DP	Eis	Dy	Own	A	4	Spic	Per	B	Own	Flot	9.2	43.49	Ros	36x7	36x7	.....	.....	7400	150	65
Jumbo 35	4080	Buda YTU	4½x6	32.4	L	C	Own	Fin	F	Zen	G	Sim	B-Li	D	Eis	.....	B-Li	U	4	Spic	Per	I	Cl	D	9	48.15	Jac	36x5	36x10	Day	.....	7510	165	75
Kalamazoo K	4000	Wis UAU	4¼x6	28.9	L	C	GO	PT	F	Strm	V	Pier	Full	D	Bos	Dy	Full	A	4	Acm	Shel	W	Shel	½Fl	10.25	49.8	Ros	36x5	36x5†	Smi	.....	7500	160	80
Kelly-Springfield K-40	4200	Own	4½x6½	32.4	T	C	Lng	Fin	F	Zen	G	Pier	Own	C	Eis	W	Covt	A	3	Own	Per	C	Own	D	10.49	31.69	Gem	36x5	40x5†	StM	.....	7730	Op	93
Kelly-Springfield K-41	4200	Own	4½x6½	32.4	T	C	Lng	Fin	F	Zen	G	Pier	B.B.	D	Eis	W	Covt	A	4	Pet	Per	I	Cl	D	10	50.7	Gem	36x5	40x5†	Cla	.....	7900	Op	90
Kelly-Springfield K-42	4200	Own	4½x6½	32.4	T	C	Lng	Fin	F	Zen	G	Pier	B.B.	D	Eis	W	Covt	A	4	Pet	Per	W	Eat	½Fl	10.25	51.97	Gem	36x5	40x5†	Smi	.....	8500	Op	90
Kleiber C	.....	Cont E4	4½x5½	32.4	L	C	RT	PT	...	Strm	G	.....	.....	WD	Bos	.....	B-Li	A	4	Spic	.....	W	Timk	Flot	8.75	42.35	Ros	36x5	36x10	Smi	.....	7200	163	75
Koehler F	4150	Her	4½x5½	32.4	L	G	Own	PT	F	Zen	G	Pier	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Math	W	Timk	Flot	10.33	.....	Lav	36x5	36x10	Day	.....	7000	162	75
Larrabee-Deyo L	4000	Cont E4	4½x5½	32.4	L	C	Bus	Fin	S	Sheb	G	Sim	B-Li	DD	Bos	.....	B-Li	A	4	Opt	Mer	W	Shel	½Fl	10	41	Ros	36x5	36x5†	Smi	.....	6850	186	....
*Maccar M2	4200	Wis VAU	4½x6	32.4	L	C	Own	Fin	F	Strm	G	Mue	B-Li	DD	Eis	.....	B-Li	U	4	Spic	Mer	W	Timk	Flot	8.75	46.81	Ros	36x5	36x6†	Day	Fir	6975	174	72
Mack AC 3½	4950	Own AC	5 x6	40	L	C	Own	Fin	S	Sheb	G	Own	Own	DP	Tea	.....	Own	UJ	3	Spic	Mer	C	Own	D	8.49	27.20	Own	36x5	40x5†	Sch	.....	8070	Op	65
*Master A	4190	Buda YTU	4½x6	32.4	L	C	Chic	PT	FS	Mas	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	10.33	55.26	Ros	36x5	40x5†	Smi	.....	8000	158	72
*Master AL	4290	Buda YTU	4½x6	32.4	L	C	Chic	PT	FS	Mas	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	10.33	55.26	Ros	36x5	40x5†	Smi	.....	8200	194	72
*Master E	4640	Buda YTU	4½x6	32.4	L	C	Chic	PT	FS	Mas	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Det	R	Walk	Flot	10.4	55.64	Ros	36x5	40x5†	Wal	.....	8000	158	72
*Master EL	4740	Buda YTU	4½x6	32.4	L	C	Chic	PT	FS	Mas	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Det	R	Walk	Flot	10.4	55.64	Ros	36x5	40x5†	Wal	.....	8200	194	72
*Menominee G	.....	Wis VAU	4½x6	32.4	L	C	Own	Fin	FS	Strm	G	Mon	Det	DP	Eis	Opt	Cott	A	4	Spic	Tut	W	Timk	Flot	10.3	56.16	Ros	36x5	36x10†	Stn	Fir	6750	160	80
*Nelson & LeMoon G 3½	.....	Cont E4	4½x5½	32.4	L	C	Chic	Fin	S	Strm	G	Phar	B-Li	DD	Bos	W	B-Li	U	4	Own	Tut	W	Timk	Flot	8.7	42	Lav	36x5	36x5†	Pru	Gdy	6000	Op	80
Noble E70	3800	Buda YTU	4½x6	32.4	L	C	Chic	Fin	F	Strm	G	Pier	Full	DP	Eis	W	W-Gr	A	4	M-E	Tut	W	Shel	½Fl	8.7	42	Lav	36x5	36x10	Bim	Fir	7500	182	85
Northway B3	4400	Own	4 x6	25.6	H	C	GO	C	F	Strm	V	Pier	Full	DP	Wag	Bj	Full	A	4	Spic	Per	W	Shel	½Fl	10	49.2	Ros	36x5	40x5†	Cla	.....	7700	Op	72
Ogden F	.....	Cont L4	4½x5½	32.4	L	C	Chic	Fin	FS	Strm	G	Pier	B-Li	DD	Spl	.....	B-Li	A	4	Spic	Tut	W	Timk	Flot	10.33	.....	Ros	36x5	40x10	Stn	.....	7300	178	88
O.K. 3½ T	4250	Buda YTU	4½x6	32.4	L	G	RT	PT	FS	Zen	V	Pier	Full	DD	Eis	.....	Full	A	4	Hart	Cham	W	Wis	½Fl	10	60	Ros	36x5*	36x5†	Bim	.....	6350	164	....
Old Reliable C	4250	Wis UAU	4¼x6	28.9	L	C	Chic	PT	FS	Strm	V	Mon	Full	DD	Bos	.....	Full	A	4	Spic	Shel	W	Shel	½Fl	8.7	42.5	Ros	34x5	36x5†	StM	.....	6650	168	75
*Oneida D9	4050	Oneida	4½x5½	32.4	L	C	Mod	C	F	Strm	V	Hin	Full	DP	Opt	.....	Full	A	4	Pet	Math	W	Timk	Flot	10.33	49.6	Ros	36x5	36x10	.....	.....	7250	170	....
Paige 51-18	4285	Hin HA 200	4½x5½	32.4	L	C	Own	Fin	F	Strm	V	Sim	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Per	W	Timk	Flot	10.3	50.01	Ros	36x5	36x5†	Own	Fir	7000	160	85
Parker J20	4400	Wis VAU	4½x6	32.4	L	C	Own	PT	F	Strm	V	Pier	B-Li	DD	Eis	W	W-Gr	A	4	Bld	Tut	W	Own	Flot	8.75	43.6	Ros	38x7*	36x10*	Smi	.....	6550	160	76
Pierce Arrow W2	4350	Own	4½x6¾	32.4	T	C	.....	Fin	F	Strm	F	Own	.....	DD	Del	Opt	.....	A	4	.....	.....	W	.....	.....	8	49	.....	36x5	36x5†	Day	.....	8350	162	85
*Power C	.....	Hink HA	4½x5½	32.4	L	G	GO	PT	F	Zen	V	Hin	Full	DD	Eis	W	Full	A	4	Arv	Row	W	Wis	½Fl	10	48	Ros	36x5	40x10	StM	.....	7400	160	75
Rainier R-15	4400	Cont L4	4½x5½	32.4	L	G	EM	PT	FS	Zen	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Per	W	Tim	Flot	.....	.....	Ros	36x5	36x5†	.....	Fir	.....	170	70

*Republic 20	3095	Cont E4	4½x5½	32.4	L	C	Own	Fin	FS	Strm	G	Phar	Full	DD	Bos	.....	Full	U	4	Spic	Math	I	Torb	D	10.25	49.25	Jac	36x5	36x10	Smi	Fir	6360	165	....
Sandow M	4295	Cont E4	4½x5½	32.4	L	G	.....	Fin	FS	Strm	G	Mon	.....	DD	Bos	.....	B-Li	A	4	Spic	GC	W	Timk	Flot	10	42	Ros	36x5	36x5†	Pru	.....	6500	175	70
Sanford W35	4200	Cont E4	4½x5½	32.4	L	G	McC	Fin	F	Strm	G	Pier	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Per	W	Shel	½Fl	8.7	34.8	Ros	36x5	36x5†	Hoo	Fir	6750	174	75
*Selden 3½A	4175	Cont E7	4½x5½	32.4	L	C	Lng	Fin	FS	Strm	G	Pier	B-Li	D	Eis	.....	B-Li	A	4	Spic	Per	W	Timk	Flot	8.75	46.81	Gem	36x5	36x10	Stn	.....	7200	162	54.5
Service 71	.....	Buda HU	4¼x5½	28.9	L	C	McC	Fin	F	Strm	V	.....	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Timk	Flot	8.75	42.35	Ros	36x5	36x5†	Stn	.....	6930	171	70
Service 76	.....	Buda YU	4½x6	32.4	L	C	McC	Fin	F	Strm	V	.....	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Timk	Flot	7.8	37.75	Ros	36x5	36x5†	Stn	.....	7280	171	70
*Signal M	3847½	Cont E4	4½x5½	32.4	L	C	McC	Fin	FS	Strm	G	Pier	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	12	58.08	Ros	36x5	40x10	StM	.....	7070	168	78
Signal ML	3937½	Cont E-4	4½x5½	32.4	L	C	McC	Fin	FS	Strm	G	Pier	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	12	58.08	Ros	36x5	40x10	St M	.....	7070	192	....
*Standard 66	3150	Cont E7	4½x5½	32.4	L	C	Lng	Fin	F	Strm	V	Mon	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Per	W	Timk	Flot	10.3	50	Gem	36x5	36x10	.....	.....	6480	160	70
Sterling 3½	4325	Ster DU	4½x6¼	32.4	L	C	Own	C	F	Zen	V	Wau	H-S	WP	Eis	.....	Own	A	3	Spic	Math	W	Timk	Flot	8.75	39.5	Ros	36x5	40x5†	Pru	.....	8350	162	92
*Stewart 10	3850	Cont E7	4½x5½	32.4	L	G	Bus	PT	FS	Zen	G	Pier	Full	DP	Eis	.....	Full	U	4	Hart	Det	I	Cl	D	10	48	Ros	36x5†	36x5†	Cla	Fir	6080	165	80
*Stewart 10X	3850	Buda YTU	4½x6	32	L	G	Bus	T	FF	Zen	G	Pier	Full	DP	Eis	.....	Full	U	4	Hart	Det	I	Cl	D	10	48.01	Ross	36x5†	36x5†	Cla	Fir	.....	165	80
Super Truck 70	4300	Wis	4¼x6	28.9	L	C	Chic	Fin	F	Zen	G	Sim	Full	DD	Bos	.....	Full	A	4	Spic	Shel	W	Shel	½Fl	10.25	49.2	Ros	36x5	40x5†	Smi	.....	7300	164	60
Tiffin PW	4100	Cont E4	4½x5½	32.4	L	C	Own	Fin	FS	Sheb	G	Pier	B.B.	DP	Bos	W	Full	A	4	Pet	Kal	W	Shel	.....	8.7	41.7	Ros	36x5	40x5†	Smi	.....	6850	160	80
Titan 3½	4550	Buda YTU	4½x6	32.4	L	C	B&W	ZZT	F	Strm	G	Sim	B.B.	DP	Eis	.....	Cott	A	4	UP	Math	I	Cl	D	9	48	Lav	36x5	40x5†	Day	.....	7300	156	70
Tower G3½	4100	Cont E4	4½x5½	32.4	L	C	Own	PT	S	Zen	G	Pier	Full	DP	Eis	.....	Full	U	4	Spic	Det	W	Timk	Flot	10.33	50	Ros	36x5	36x5†	Pru	Gdy	7010	165	70
Transport 70	3885	Buda YTU	4½x6	32.5	L	G	Mod	C	F	Strm	G	Dup	B.B.	D	Eis	.....	Cott	U	4	Hart	Det	I	Cl	D	10.1	52	Jac	36x5	36x10	.....	Fir	7150	170	80
*Twin City 3½	.....	Own	4¼x6	28.9	H	C	Mod	H	F	Sheb	V	Own	B.B.	D	Bos	.....	Full	A	4	Spic	Math	W	Timk	Flot	10.33	49.58	Ro	36x5	40x5†	Smi	.....	6800	168	80
United C 3½	3975	Buda HTU	4¼x5½	28.9	L	C	Mod	.....	F	Strm	G	Sim	Full	DD	Eis	Opt	Full	A	4	Bld	Bea	I	Cl	D	10	48.1	Lav	36x5	36x5†	Cla	.....	6700	157	70
Ursus W 60	3950	Buda YTU	4½x6	32.4	L	...	.....	PT	...	Strm	...	Pier	B-Li	DP	Spl	.....	B-Li	...	4	Ther	.....	W	Timk	Flot	.....	.....	Ros	Opt	Opt	Roy	.....	.....	Op	....
Walter T	4540	Wau DN	4½x6¼	32.4	L	C	Bus	PT	F	Strm	G	Wau	B-Li	D	Eis	W	War	A	4	Own	.....	....	Own	Flot	8	40	Ros	36x5	40x5†	.....	.....	7400	168	75
Ward LaFrance 4A	4690	....	4½x6¼	32.4	L	C	Own	Fin	F	Strm	G	.....	B-Li	DP	Bos	.....	B-Li	A	4	M&E	Mer	W	Timk	Flot	7.8	41.73	Ros	36x5	36x5†	Smi	.....	7750	162	85
*Watson N	.....	Cont E4	4½x5½	32.4	L	P	R-T	PT	FS	Strm	G	Pier	B-Li	DP	Sim	.....	B-Li	A	4	Spic	Shel	W	Wis	½Fl	9	43.56	Gem	36x5	36x10	C&M	.....	6600	168	75
White 40	4200	Own	3¾x5¾	22.5	L	C	.....	Fin	F	Own	V	Own	Own	D	.....	.....	Own	U	4	Own	.....	R	Own	Flot	.....	.....	Own	36x5	40x5†	.....	.....	7400	174	....
Wichita O	4000	Beav JA	4¼x6	28.9	H	G	.....	C	F	Strm	G	Dup	Own	C	Wag	.....	B-Li	A	4	Own	Det	W	Shel	½Fl	11.75	61.10	Ros	36x5	36x5†	Smi	.....	6500	165	80
*Wilcox E	.....	Buda	4½x6	32.4	L	G	.....	PT	S	Strm	G	Dup	Own	C	Bos	.....	Own	A	4	Own	Shel	R	Walk	½Fl	10	45.1	Own	36x5	36x5†	.....	.....	6600	147	75
Wilson G	3685	Own	4¼x5½	28.9	L	G	Lng	PT	FS	Mar	V	Pier	B.B.	D	Eis	.....	Own	A	4	K-B	Per	W	Timk	Flot	8.7	42.3	Ros	36x5	36x5†	Smi	.....	6800	160	80
Winther 70	4200	Wis TAU	4 x6	25.6	L	G	Brm	PT	F	Mas	V	.....	B.B.	DP	Eis	W	B-Li	A	4	Bld	Math	I	Cl	D	9	36	Ros	36x5	36x5†	Cla	Fir	6400	150	85
*Wisconsin E (Sauk City)	4000	Wau EU	5 x6¼	40	L	C	Chic	PT	F	.....	V	Wau	B-Li	DD	Eis	Opt	B-Li	A	4	Spic	Det	W	Timk	Flot	10.	.....	Lav	36x6	36x12	Bim	Gdy	6800	166	80
Wolverine L	4100	Cont L	4½x5½	32.4	L	G	Lng	PT	F	Strm	G	Phar	Full	D	Eis	Bj	Full	U	4	Up	Am	I	Cl	D	10	.....	Gem	36x8	36x10	Cla	Gdy	6800	186	72
*Young 7	3750	Cont L4	4½x5½	32.4	L	C	Whee	Fin	F	Strm	G	Mon	B-Li	D	Eis	.....	B-Li	A	4	Spic	Math	W	Timk	Flot	.....	.....	Ros	36x5	36x10	StM	.....	6800	176	72
4 Ton																																		
American	4275	Wis	4½x6	32.4	L	G	GO	Fin	F	Strm	G	Own	Det	DP	Apo	.....	Cott	A	4	Acm	SP	W	Wis	½Fl	10	.....	Lav	36x5	36x5†	Smi	.....	7000	158	....
Bessemer K2	.....	Cont E7	4½x5½	32.4	L	C	.....	C	FS	Strm	G	Pier	B.B.	DP	Bos	.....	B-Li	A	4	Spic	Per	I	Torb	D	10	49.5	Ros	36x5	36x10†	Sch	Fir	6740	175	75
*Corbitt A-22	3800	Cont E4	4½x5½	32.4	L	G	McC	Fin	FS	Strm	V	Pier	B-Li	DD	Eis	.....	B-Li	U	4	Hart	Shel	W	Shel	½Fl	11.75	47	Ros	36x5	36x10	Smi	.....	7370	178	75
Denby 27	4200	Cont E7	4½x5½	32.4	L	C	Lng	PT	FS	Strm	G	Sim	Full	DD	Eis	.....	Full	A	4	UP	Det	I	Cl	D	10	49.9	Ros	36x5	36x5†	Smi	Fir	7020	170	78
Double-Drive B	4000	Buda ETU	4¼x5½	28.9	L	G	.....	PT	F	Zen	V	Pier	B.B.	DD	Spl	Opt	Own	A	4	Own	Own	W	Own	½Fl	9.75	48.75	Lav	36x6	36x6	Stn	.....	.....	130	55
*Highway-Knight A	.....	R & V-W	4 x6	25.6	S	T	Own	Fin	F	Zen	V	Mon	Own	D	Eis	Wg	Own	A	4	Ther	Shel	W	Shel	½Fl	8.75	42.35	Ros	36x5	36x6†	Sch	.....	8050	159	....
Jumbo 40	4730	Buda YTU	4½x6	32.4	L	C	Own	Fin	F	Zen	G	Sim	B-Li	D	Eis	.....	B-Li	U	4	Spic	Per	I	Cl	D	10	53.5	Jac	38x7*	44x10	Cla	.....	7760	165	75
*Kimball E	5000	Wis RAU	4¾x6	36.1	L	C	Eag	PT	F	Zen	V	Sim	B-Li	DP	Spl	W	B-Li	A	4	Spic	US	W	Shel	½Fl	8.75	42.3	Woh	36x5	40x12	Smi	Fir	8250	Op	66
Kissel Heavy Duty	3675	Own 14000	4¼x5½	28.9	L	C	McC	PT	S	Strm	V	Pier	W-Gr	DP	Eis	.....	W-Gr	A	4	Spic	Shel	W	Shel	½Fl	11.7	58.6	Ros	36x5	36x5†	Smi	.....	7200	168	75
Moreland 21G	4600	Cont B2	4¾x6	36.1	L	C	Own	C	F	Mas	P	Con	Own	DD	Spl	.....	Own	A	5	Ther	US	W	Timk	Flot	8.75	52.68	Ros	36x5	40x5†	Smi	.....	8000	168	....
Riker BB	4700	Own	4¼x6	28.9	T	C	.....	Fin	FS	BB	G	Own	Own	C	Ber	W	Own	A	4	Own	.....	W	Own	½Fl	10	42.5	Ros	36x5	36x6†	.....	.....	6381	150	77
Rowe HW 4	4500	Wis UAU	4¼x6	28.9	L	C	Fed	H	F	Zen	G	Sim	B-Li	DP	Bos	.....	B-Li	U	4	Spic	Shel	W	Shel	½Fl	8.7	35	Ros	36x5	36x6†	Hoo	.....	6370	156	77
*Schacht	.....	Buda YTU	4½x6	32.4	L	G	Own	PT	F	Sheb	G	Dup	B.B.	D	Bos	.....	Own	A	4	M&E	Nat	W	Own	Flot	.....	.....	Own	36x5	36x5†	StM	.....	7800	168	70
Traylor E	4450	Buda YTU	4½x6	32.6	L	P	GO	Fin	F	Zen	G	Sim	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Mer	W	Shel	½Fl	8.7	.....	Ros	36x5	40x5†	Smi	.....	8500	170	75
Union H	3975	Wis VAU	4½x6	32.4	L	G	GO	Fin	F	Sheb	G	Dup	Full	DD	Eis	LN	Full	U	4	UP	Math	I	Torb	D	10.25	49.2	Ros	36x6	36x10	Smi	.....	7700	174	75
Union HW	4650	Wis VAU	4½x6	32.4	L	G	GO	Fin	F	Sheb	G	Dup	Full	DD	Eis	LN	Full	A	4	UP	Math	R	Walk	.....	10.5	63.0	Ros	36x6	40x12	Smi	.....	7750	174	75
*U. S., 8	.....	Own	4½x5½	32.4	L	C	Lng	Fin	F	Strm	V	Own	B-Li	DD	Eis	Opt	B-Li	A	4	Opt	Shel	W	Shel	½Fl	10.25	49.6	Lav	36x5	36x5†	Sch	.....	7600	168	85
5 Ton																																		
Acason M	.....	Wau EU	5 x6¼	40	L	G	Can	Fin	FS	Sheb	V	Wau	Det	.....	Eis	.....	Cott	A	4	Bld	Det	W	Timk	Flot	10.25	53.3	Ros	36x6	40x6†	Smi	Opt	8350	187	....
*Acme E	.....	Cont B2	4¾x6	36.1	L	C	GO	Fin	F	Rayf	V	Con	B.B.	DP	Eis	DL	Cott	A	4	Bld	Det	W	Timk	Flot	11.66	60.66	Ros	36x6	40x12	Smi	.....	8976	180	50
Atterbury 8E	4975	Cont B2	4¾x6	36.1	L	C	Own	Fin	F	Zen	V	Con	B-Li	DD	Ber	.....	B-Li	A	4	Spic	SP	W	Timk	Flot	11.6	62.38	Gem	36x5	40x6†	Stn	.....	9496	167	81¾
Atterbury 8E-LWB	5125	Cont B-2	4¾x6	36.1	L	C	Own	Fin	F	Zen	V	Con	B-Li	DD	Ber	.....	B-Li	A	4	Spi	SP	W	Timk	Flot	11.6	62.38	Gem	36x5	40x6†	Stn	.....	9816	192	....
Autocar Y	4350	Own Y	4¼x5½	28.9	L	C	Own	Fin	S	Strm	G	.....	Own	DP	.....	.....	Own	A	4	.....	.....	R	Own	Flot	8.7	52.2	Ros	34x6	36x12	Hoo	.....	7000	120	65
Autocar B	4500	Own B	4¼x5½	28.9	L	C	Own	Fin	S	Strm	G	.....	Own	DP	.....	.....	Own	A	4	.....	.....	R	Own	Flot	8.7	52.2	Ros	34x6	36x12	Hoo	.....	7150	156	65
Available H5	5375	Her T2	4¾x6	36.1	L	C	Chic	Fin	FS	Strm	V	Pier	B-Li	DD	Bos	.....	B-Li	A	4	M-E	Tut	W	Timk	Flot	11.3	60.45	Ros	36x6	40x12	Smi	.....	9500	190	75
Brockway T	.....	Cont B2	4¾x6	36.1	L	C	Bus	Fin	F	Strm	V	Con	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Mer	W	Timk	Flot	10.25	54.8	Gem	36x6	40x6†	Smi	.....	8800	174	70
Chicago D5	.....	Her MU3	4½x5½	32.4	L	C	.....	PT	F	Strm	G	Sim	B-Li	D	Bos	.....	B-Li	A	4	Pet	Math	W	Timk	Flot	13.66	63.1	Gem	36x6	40x12	Opt	Sta	6900	168	....
*Clydesdale 120 B	4500	Cont	4¾x6	36.1	L	C	Strm	PT	F	Zen	V	Own	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Stan	W	Timk	Flot	11.66	62.4	Ros	36x6	40x12	Smi	.....	9200	176	76
*Corbitt AA-22	4500	Cont B2	4¾x6	36.1	L	C	McC	Fin	F	Strm	V	Con	B-Li	DD	Eis	.....	B-Li	A	4	Hart	Shel	W	Shel	½Fl	10.25	49.6	Ros	36x6	40x6†	Smi	.....	9685	178	70
Couple Gear AC	6700	Wis	5¼x7	44.1	T	G	Idl	H	F	Strm	G	.....	.....	.....	Eis	Own	Own	...	5	Own	Tut	B	Own	.....	25	.....	Own	36x5†	36x5†	Own	Own	11000	144	60
Day-Elder E	4250	Buda YU	4½x6	32.4	L	C	Bus	Fin	F	Zen	G	Mon	B-Li	DD	Eis	.....	B-Li	A	4	Hart	Shel	W	Shel	½Fl	10.25	49.61	Gem	36x5	40x6†	Smi	Fir	8250	170	70
Denby 210	4500	Cont E7	4½x5½	32.4	L	C	Lng	PT	FS	Strm	G	Sim	Full	DD	Eis	.....	W-Gr	A	4	Pet	Det	I	Cl	D	12.5	62.7	Ros	36x6	40x6†	Cla	Fir	8590	170	80
*Diamond T-EL	4325	Hin	4½x5½	32.4	L	C	GO	Fin	F	Strm	V	Own	Covt	DD	Bos	.....	Covt	A	4	Spic	Math	W	Timk	Flot	11.66	59.11	Gem	36x6	40x6†	.....	.....	8625	180	....
*Diamond TS	4500	....	4¾x6	36.1	L	C	GO	Fin	F	Strm	V	Own	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Math	W	Timk	Flot	11.66	56.43	Gem	36x6	40x6†	.....	.....	8750	180	....
Fageol 5	5700	Wau DU	4½x6¼	32.4	L	C	Mod	C	F	Zen	V	Wau	Det	DD	Spl	.....	Own	A	5	Spic	Math	W	Timk	Flot	8.4	89	Ros	36x6	40x6†	Stn	.....	8300	172	80
*Federal X2	4500	Con B5	4¾x6	36.1	L	C	Own	Fin	F	Zen	V	Phar	B.B.	DP	Eis	.....	Own	A	4	Spic	Math	W	Timk	Flot	10.25	60	Gem	36x6	40x6†	.....	Fir	8100	156	....
Garford 68 D	.....	Buda BTU	5 x6½	40	L	C	Own	Fin	F	Strm	G	Sim	.....	DD	Spl	.....	Own	A	4	Spic	Per	W	Timk	Flot	8.8	.....	Ros	36x6	40x6†	Smi	.....	9350	162	....
Gary M	5150	Buda BTU	5 x6½	40	L	C	Chic	Fin	F	Mas	G	McC	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	11.66	56.4	Ros	36x6	40x6†	Day	.....	8500	182	72
Giant 18	5000	Cont	4½x5½	32.4	L	P	Own	.....	B	Sheb	G	Mon	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Math	W	Timk	Flot	10.25	49.61	Ros	36x6	40x10	Smi	.....	7500	196	85
G. M. C. K-101	4650	Own	4½x6	32.4	L	B	Own	Fin	F	Mar	G	Own	Own	DD	Eis	Opt	Own	A	7	Own	Det	W	Timk	Flot	10	86	Own	36x5	40x6†	Own	.....	8535	Op	Opt
*Gramm-Bernstein 50	4895	Lib B	4¾x6	36.1	L	C	Own	Fin	F	Strm	V	Con	Own	DD	Eis	NE	Own	A	4	Own	Per	W	Shel	½Fl	9.5	55	Ros	36x6	40x6†	Smi	.....	9860	168	92.2
*Hall 5 Worm	.....	Cont E4	4½x5½	32.4	L	T	Own	PT	FS	Zen	G	Dup	B-Li	DP	Bos	.....	B-Li	A	..	Opt	Per	W	Timk	Flot	12	.....	Gem	36x5	40x6†	Smi	.....	8400	144	....
Hendrickson K	4800	Wau EU	5 x6¼	40	L	C	Chic	Pt	F	Strm	G	Wau	Full	D	Spl	.....	Full	...	4	Ther	Tut	W	Timk	Flot	12	57	Ros	36x6	40x6†	Stn	.....	.....	Op	....
Highway-Knight B	.....	R&V-W	4 x6	25.6	S	T	Own	Fin	F	Zen	V	Mon	Own	D	Eis	Wg	Own	A	4	Ther	Shel	W	Shel	½Fl	10.25	49.61	Ros	36x5	40x6†	Sch	.....	8650	161	....
Hurlburt	.....	Buda YTU	4½x6	32.4	L	C	Own	.....	FS	Flch	G	Dup	B-Li	D	Eis	.....	B-Li	A	4	Spic	Per	W	Own	Flot	11	49.9	Ros	36x5	40x6†	Wau	.....	7973	156	....
Indiana 51	.....	Wau EU	5 x6¼	40	L	C	McC	Fin	F	Strm	G	Wau	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Shel	½Fl	10.25	54.84	Woh	36x5	40x6†	Smi	.....	9000	170	76.8
International 101	3600	Own	4¼x5	28.9	H	T	Own	Fin	FS	Ens	G	Own	Own	DP	Spl	Own	Own	A	4	Own	.....	I	Own	D	11	53.25	Own	36x5	40x10	Own	.....	6715	160	50
Italia	5700	Buda YTU	4½x6	32.4	L	C	Mod	ZZT	F	Strm	V	Pier	Full	D	Eis	.....	Full	A	4	Spic	Shel	W	Shel	½Fl	.....	.....	Ros	36x5	36x12	Smi	.....	8000	178	90
Kelly-Springfield K50	4900	Own	4½x6½	32.4	T	C	Lng	Fin	F	Zen	G	Pier	B.B.	C	Eis	W	Covt	A	4	Own	Per	C	Own	D	12.24	44.74	Gem	36x6	40x6†	Smi	.....	8400	Op	93
*Kimball F	5500	Wis RBU	5 x6	40	L	C	Eag	PT	F	Zen	V	Sim	B-Li	DP	Spl	W	B-Li	A	4	Spic	US	W	Shel	½Fl	8.75	52.5	Woh	36x6	40x7†	Smi	Fir	8800	Op	66
Kissel Goliath	4085	Own 60000	4¼x5½	28.9	L	C	McC	PT	S	Strm	V	Pier	W-Gr	DP	Eis	.....	W-Gr	A	4	Spic	Shel	W	Shel	½Fl	13	65	Ros	36x6	36x6†	Smi	.....	8000	180	75
Kleiber D	.....	Buda BTU	5 x6½	40	L	C	RT	PT	...	Strm	G	Sim	.....	DD	Bos	.....	B-Li	A	4	Spic	.....	W	Timk	Flot	11.66	56.48	Ros	36x6	40x6	Smi	.....	9200	180	75
Larrabee-Devo W	4800	Cont B2	4¾x6	36.1	L	C	Bus	Fin	F	Sheb	G	Sim	B-Li	DD	Bos	.....	B-Li	A	4	Opt	Mer	W	Shel	½Fl	10	51	Ros	36x6	40x6†	Smi	.....	9900	186	....
*Maccar G	4950	Cont B2	4¾x6	36.1	L	C	Own	Fin	F	Zen	G	Con	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Mer	W	Timk	Flot	10.2	54.57	Ros	36x5	40x6†	Smi	Fir	8750	186	74
Mack AC5	5500	Own AC	5 x6	40	L	C	Own	Fin	S	Sheb	G	Own	Own	DP	Tea	.....	Own	UJ	3	Spic	Mer	C	Own	D	9	28.89	Own	36x6	40x6†	Sch	.....	8650	Op	68

Trade Name and Model	Chassis Price	ENGINE DETAILS: Make and Model Number 4 Cylinder unless otherwise noted	Bore and Stroke	N. A. C. C. Horsepower	Valve Arrange't	How Cooled	Radiator (Make)	Radiator (Type)	Lubrication	Carburetor	Fuel Feed	Governor (Make)	Clutch (Make)	Clutch (Type)	Ignition System	Engine Starter	GEARSET: Make	Location	Speeds	Universal (Make)	Springs (Make)	REAR AXLE: Final Drive	Make	Type	Total Gear Reduction in High	Total Gear Reduction in Low	Steering Gear (Make)	TIRES, WHEELS, RIMS: *Pneumatic †Dual Front	Rear	Wheels (Make)	Rim Equipment	Chassis Weight	Wheelbase	Pr. Cent of Weight on Rear Wheels
5 Ton—Con'd		1		2	3	4	5	6	7	8	9	10	11	12	13	14	15		16	17	18	19	20			21			22	23			
*Master B.	5290	Buda ATU	4¼x6½	36.1	L	C	Chic	PT	FS	Mas	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	11.6	62.06	Ros	36x6	40x6†	Smi	.....	9200	170	72
*Master BL.	5390	Buda ATU	4¼x6½	36.1	L	C	Chic	PT	FS	Mas	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Det	R	Walk	Flot	11.5	63.52	Ros	36x6	40x6†	Wal	.....	9200	170	72
*Master F.	5440	Buda ATU	4¼x6½	36.1	L	C	Chic	PT	FS	Mas	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Det	R	Walk	Flot	11.5	63.52	Ros	36x6	40x6†	Wal	.....	9800	194	72
*Master FL.	5540	Buda ATU	4¼x6½	36.1	L	C	Chic	PT	FS	Mas	V	Pier	B-Li	DP	Eis	.....	B-Li	A	4	Spic	Tut	W	Timk	Flot	11.6	61.43	Ros	36x6	40x12†	Stn	Fir	8250	160	80
*Menominee J.	.....	Wis RAU	4¾x6	36.1	L	C	Own	Fin	FS	Strm	G	Mon	Det	DP	Eis	Opt	Cott	A	4	Spic	Tut	W	Timk	Flot	11.6	61.43	Ros	36x6	40x12†	Stn	Fir	8250	160	80
Moreland 21J	5000	Cont B2	4¾x6	36.1	L	C	Own	C	F	Mas	P	Con	Own	DD	Spl	.....	Own	A	5	Ther	US	W	Timk	Flot	10.4	62.19	Ros	36x6	40x6†	Smi	.....	9000	168	....
*Nelson & LeMoon G5.	.....	Cont B2	4¾x6	36.1	L	C	Chic	Fin	F	Strm	G	Con	B-Li	DD	Bos	W	B-Li	A	4	Own	Tut	W	Timk	Flot	11.66	.....	Lav	36x6	40x6†	Pru	Gdy	8000	Op	80
Ogden G	.....	Cont B 2	4¾x6	36.1	L	P	Chic	Fin	FS	Strm	G	Pier	B-Li	DD	Spl	.....	B-Li	A	4	M-E	Tut	W	Walk	.....	10.33	.....	Ros	36x6	40x12	Wal	.....	8600	175	88
Old Reliable D.	5000	Wis RAU	4¾x6	36.1	L	C	Chic	PT	FS	Strm	V	Mon	Own	WD	Bos	.....	B-Li	A	4	Spic	Shel	W	Shel	½Fl	10.25	41.5	Ros	36x5	40x6	StM	.....	8400	180	80
*Oneida E9.	4725	Oneida	4½x5½	32.4	H	C	Mod	C	F	Strm	V	Hin	Full	DP	Opt	.....	Full	A	4	Pet	Math	W	Timk	Flot	11.66	70	Ros	36x6	40x12	.....	.....	9170	180	....
Packard EF.	4500	Own	5 x5½	40	L	C	.....	Fin	F	Own	P	Own	Own	DP	Spl	Bj	Own	A	4	Spic	.....	W	Own	Flot	10.66	49	Ros	36x6	40x6	.....	.....	8400	156	57.2
Parker M20.	5500	Wis RAU	4¾x6	36.1	L	C	Own	PT	F	Strm	V	Pier	B-Li	DD	Fis	W	W-Gr	A	4	Bld	Tut	W	Own	Flot	10.25	51.1	Ros	36x6	40x6†	Smi	.....	8400	160	78
Pierce Arrow R10.	4850	Own	4½x6¾	32.4	T	C	.....	Fin	F	Strm	F	Own	.....	DD	Del	Opt	.....	A	4	.....	.....	W	.....	.....	10	61.2	....	36x5	40x6†	Day	.....	9300	168	85
Rainier R-17.	5100	Cont B-2	4¾x6	36.1	L	G	EM	Fin	F	Zen	V	Pier	B-Li	DP	...	.....	B-Li	A	4	Spi	.....	W	Timk	Flot	.....	.....	Ros	36x6	36x36†	Smi	.....	8000	170	...
Rowe FW5.	5550	Wis VAU	4½x6	32.4	L	C	Fed	H	F	Zen	G	Sim	B-Li	DP	Bos	.....	B-Li	A	4	Spic	Shel	W	Shel	½Fl	8.7	40.7	Ros	36x6	40x6†	Hoo	.....	8300	169	75
Sandow L.	4975	Cont E4	4½x5½	32.4	L	C	.....	Fin	FS	Strm	..	Mon	.....	D	Bos	.....	B-Li	A	4	Spic	GC	W	Timk	Flot	12	46.6	Ros	36x6	40x6†	Stn	.....	7800	175	70
Sanford W50.	5100	Cont E4	4½x5½	32.4	L	G	McC	Fin	F	Strm	G	Pier	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Per	W	Shel	½Fl	10.75	52.03	Ros	36x5	40x6†	Hoo	Fir	9070	174	75
*Schacht.	.....	Buda YTU	4½x6	32.4	L	G	Own	PT	F	Sheb	G	Dup	B.B.	D	Bos	.....	Own	A	4	M-E	Nat	W	Own	Flot	.....	.....	Own	36x5	40x6†	StM	.....	8200	168	70
Schwarts DWS	4900	Buda YTU	4½x6	32.4	L	C	Fed	H	F	Strm	G	Sim	Full	DP	Bos	.....	Full	A	4	ME	Row	W	Shel	½Fl	12	72	Ros	36x6	40x12	Smi	Fir	9000	156	....
Schwarts DW.	4900	BudaYTU	4½x6	32.4	L	C	Fed	H	F	Strm	G	Sim	Full	DP	Bos	.....	Full	A	4	ME	Row	W	Shel	½Fl	12	72	Ros	36x6	40x12	Smi	Fir	9000	170	....
Schwarts DWL.	4900	Buda YTU	4½x6	32.4	L	C	Fed	H	F	Strm	G	Sim	Full	DP	Bos	.....	Full	A	4	ME	Row	W	Shel	½Fl	12	72	Ros	36x6	40x12	Smi	Fir	9000	186	....
*Selden 5A.	5600	Cont B2	4¾x6	36.1	L	C	Lng	Fin	F	Strm	G	Con	Det	D	Eis	.....	B-Li	A	4	Spic	SP	W	Timk	Flot	10.25	55	Gem	36x6	40x12	Stn	.....	9650	164	56½
Service 101.	.....	Buda YU	4½x6	32.4	L	C	McC	Fin	F	Strm	V	.....	B.B.	DP	Eis	.....	B-Li	A	4	Spic	Shel	W	Timk	Flot	10.25	49.6	Ros	36x6	40x6†	Stn	.....	8760	171	75
*Signal R.	4770	Cont B2	4¾x6	36.1	L	C	McC	Fin	FS	Strm	G	Pier	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Det	W	Timk	Flot	11.6	56.43	Ros	36x6	40x12	Smi	Gdy	9510	180	80
Standard 5K	4400	Cont B2	4¾x6	36.1	L	C	Lng	Fin	F	Strm	V	Con	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Per	W	Timk	Flot	11.66	66	Gem	36x6	40x12	Day	.....	8700	164	73
Sterling 5-Worm.	4950	Ster EU	5 x6¼	40	L	C	Own	C	F	Zen	V	Wau	H-S	WD	Eis	.....	Own	A	3	Spic	Math	W	Timk	Flot	8.8	39.69	Ros	36x6	40x6†	Pru	.....	9750	168	94
Sterling 5-Chain.	5500	Ster EU	5 x6¼	40	L	C	Own	C	F	Zen	V	Wau	H-S	WD	Eis	.....	Own	A	6	UM	Math	C	Own	D	7.04	39.59	Ros	36x6	40x6†	Smi	.....	10250	174	94
Super Truck 100.	5300	Wis	4¾x6	36.1	L	C	Chic	Fin	F	Zen	G	Sim	Full	DD	Spl	.....	Full	A	4	Spic	Shel	W	Shel	½Fl	10.25	49.2	Ros	36x5	40x6†	Smi	.....	8500	164	62
Tiffin TW.	4800	Cont B2	4¾x6	36.1	L	C	Own	Fin	F	Sheb	G	Con	B.B.	DP	Bos	W	Cott	A	4	Pet	Kal	W	Shel	½Fl	10.25	53.3	Ros	36x6	40x6†	Smi	.....	8400	168	80
Titan 6.	5400	Buda YTU	4½x6	32.4	L	C	B&W	ZZT	F	Strm	G	Sim	B.B	DP	Eis	.....	Cott	A	4	Pet	Shel	I	Cl	D	11	59	Lav	36x5	40x6†	Cla	.....	9100	156	70
Traylor F	4700	Buda YTU	4½x6	32.6	L	P	GO	Fin	F	Zen	G	Sim	B-Li	DD	Bos	.....	B-Li	A	4	Spic	Mer	W	Shel	½Fl	10.2	.....	Ros	36x6	40x6†	Smi	.....	9000	170	75
United V 5.	5000	Buda YTU	4½x6	32.4	L	C	Mod	.....	F	Strm	G	Sim	Full	DD	Eis	Opt	Full	A	4	Bld	Bea	I	Cl	D	12.5	75.36	Ros	36x5	40x6†	Cla	.....	9150	160	70
U. S., T.	.....	Buda ATU	4¾x6½	36.1	L	C	Lng	Fin	F	Strm	V	Sim	B-Li	DD	Eis	Opt	B-Li	A	4	Opt	Shel	W	Shel	½Fl	10.25	54.8	Lav	36x6	40x6†	Smi	.....	9700	172	90
*Walter S.	4850	Wau DU	4½x6¼	32.4	L	C	Bus	PT	F	Strm	G	Wau	B-Li	DP	Bos	W	W-Gr	A	4	Own	Stan	R	Own	Flot	9	45	Ros	36x6	40x6†	Day	.....	7900	168	75
Ward La France 5A.	5590	.....	5 x6¼	40..	L	C	Own	Fin	F	Strm	G	....	B-Li	DP	Bos	.....	B-Li	A	4	M-E	Mer	W	Timk	Flot	8.8	47.08	Ros	36x6	40x6†	Smi	.....	9300	164	85
White 45.	4500	Own	4¼x5¾	28.9	L	C	.....	Fin	F	Own	V	Own	Own	D	...	.....	Own	U	4	Own	....	R	Own	Flot	.....	.....	Own	36x6	40x6†	.....	.....	8200	174	....
*Wilcox F	.....	Buda	4¾x6½	36.1	L	C	.....	PT	S	Strm	V	Dup	Own	C	Bos	.....	Own	A	4	Spic	Shel	R	Walk	½Fl	10.25	56.58	Own	36. 5	40x12	Smi	.....	9000	162	80
Wilson H.	4520	Own	4¾x6	36.1	L	G	Lng	PT	FS	Mar	V	Pier	B.B.	D	Eis	.....	Own	A	4	K-B	Per	W	Timk	Flot	10.25	49.6	Ros	36x6	36x6†	Smi	.....	7500	160	80
Winther 109.	5250	Wis VAU	4½x6	32.4	L	G	Brm	PT	F	Mas	V	Dup	B.B.	DP	Eis	W	B-Li	A	4	Bld	Math	I	Cl	D	12	60.5	Ros	36x5	40x6†	Cla	.....	8300	162	80
5½, 6 and 7 Ton																																		
Available H7.	6000	Her T3	5 x6	40	L	C	Chic	Fin	FS	Strm	V	Pier	B-Li	DD	Bos	.....	B-Li	A	4	M-E	Tut	R	Sav	½Fl	14	74.90	Ros	36x6	40x14	Smi	.....	10300	190	75
Bartlett 70	.....	Wis RBU	5 x6	40	L	C	Chic	PT	F	Strm	V	Sim	HS	.....	Bos	.....	Cott	...	3	Hart	Shel	C	Own	D	12.25	48	Ros	36x7	40x14	Smi	.....	11000	144	83
Couple Gear LD6.	7350	Wis	5¾x7	52.8	T	G	Idl	H	F	Strm	G	....	.....	Eis	Own	Own	...	5	Own	Tut	B	Own	....	12	.....	Own	36x5†	36x6	Own	Own	12000	144	55
Doane 6.	6000	Wau EU	5 x6¼	40	L	C	Own	PT	S	Mas	G	Wau	B-Li	DD	Bos	.....	B-Li	U	3	Own	Own	C	Own	D	10.5	42	Lav	36x6	40x6†	Wes	.....	8500	178	79
Garford 150 A-7½	.....	Buda BTU	5 x6½	40	L	C	Own	Fin	F	Strm	G	Sim	.....	DD	Spl	.....	Own	UJ	4	Spic	Per	C	Own	D	11.44	.....	Ros	36x6	40x7†	.....	.....	10200	162	....
*Hall 7 Chain	.....	Cont E4	4½x5½	32.4	L	T	Own	Fin	FS	Zen	G	Dup	B-Li	DP	Bos	.....	B-Li	U	..	Opt	Det	C	.....	D	12	.....	Gem	36x5	40x6†	Smi	.....	8400	144	....
Kelly-Springfield K60.	5100	Own	4½x6½	32.4	T	C	Lng	Fin	F	Zen	G	Pier	B.B.	C	Eis	W	Covt	A	4	Own	Per	C	Own	D	12.39	45.19	Gem	36x6	40x7†	Smi	.....	8900	Op	93
MacDonald A.	5750	Buda YTU	4½x6	32.4	L	C	Own	PT	F	Strm	G	Sim	B-Li	DD	Spl	.....	B-Li	U	4	Own	Own	I	Own	D	17.5	77	Own	40x7	Opt	Opt	.....	6000	..	66
Mack AC6½	5750	Own AC	5 x6	40	L	C	Own	Fin	S	Sheb	G	Own	Own	DP	Tea	.....	Own	UJ	3	Spic	Mer	C	Own	D	10.50	33.70	Own	36x6	40x12	Sch	.....	8672	Op	73
Mack AC7½	6000	Own AC	5 x6	40	L	C	Own	Fin	S	Sheb	G	Own	Own	DP	Tea	.....	Own	UJ	3	Spic	Mer	C	Own	D	11.58	37.16	Own	36x7	40x7†	Sch	.....	9050	Op	73
Old Reliable K, L, M.	6000	Wau EU	5 x6¼	40	L	C	Chic	PT	FS	Strm	G	Wau	Own	WD	Bos	.....	Own	A	4	Spic	Shel	C	Own	D	10.86	54.9	Ros	36x6	40x7†	StM	.....	10240	136	78
Schacht.	.....	Buda YTU	4½x6	32.4	L	G	Own	PT	F	Sheb	G	Dup	B.B.	D	Bos	.....	Own	A	4	ME	Nat	W	Own	Flot	.....	.....	Own	36x6	40x7†	St M	.....	8500	168	70
Sterling 7½-Chain.	6000	Ster EU	5 x6¼	40	L	C	Own	C	F	Zen	V	Wau	H-S	WD	Eis	.....	Own	A	6	UM	Math	C	Own	D	7.26	43.6	Ros	36x6	40x7†	Smi	.....	11000	174	94
Tiffin 6 U-W.	5000	Cont B2	4¾x6	36.1	L	C	Own	Fin	F	Sheb	G	Con	B.B.	DP	Bos	W	Cott	A	4	Pet	Kal	W	Shel	½Fl	10.25	53.3	Ros	36x6	40x12	Smi	.....	9000	168	80
Union J.W.	5800	Wis RBU	5 x6	40	L	G	GO	Fin	F	Sheb	G	Dup	Full	DD	Eis	LN	Full	A	4	UP	Math	R	Walk	.....	11.5	69.0	Ros	36x6	40x14	Smi	.....	9250	193	75
Walter R.	5350	Wau DU	4½x6¼	32.4	L	C	Bus	PT	F	Strm	G	Wau	B-Li	D	Eis	W	War	A	4	Own	....	....	Own	Flot	9	50	Ros	36x6	40x7†	Day	.....	8200	168	80
*Wichita S.	5000	Beav JB	4½x6	32.4	H	G	.....	C	F	Strm	G	Dup	Own	C	Wag	.....	Own	A	4	Own	Det	R	Own	½Fl	14	66.3	Ros	36x6	40x6†	Smi	.....	10000	165	80
Winther 140.	5900	Wis-RBU	5 x6	40	L	G	Brm	PT	F	Mas	V	Dup	B.B.	DP	Eis	W	B-Li	A	4	Bld	Math	I	Cl	D	12	60.5	Ros	36x6	40x7†	Cla	.....	9600	162	80
Gasoline Tractor-Trucks																																		
*Buffalo Six 2½	3600	Her CU3	4 x5½	25.6	L	P	Own	PT	F	Zen	V	Sim	Covt	D	Bos	Bos	Covt	...	10	Spic	Shel	W	Shel	½Fl	7.75	150	Ros	Opt	Opt	Way	Gdy	6325	155	75
*Federal Light Duty.	2600	Cont C4	4½x5½	27.2	L	C	Own	Fin	FS	Zen	G	Phar	B.B.	DP	Eis	.....	Own	A	4	Spic	Math	W	Timk	Flot	9.2	40.7	Gem	36x4	36x7	.....	Fir	4700	120	....
*Federal Heavy Duty.	3350	Cont E4	4½x5½	32.4	L	C	Own	Fin	FS	Zen	G	Phar	B.B.	DP	Eis	.....	Own	A	4	Spic	Math	W	Timk	Flot	12	59.8	Gem	36x5	36x5†	.....	Fir	6800	114	....
Fulton D.	.....	H Sp 7000	3½x5	19.6	L	T	GO	H	FS	Cart	G	.....	Covt	DP	Ber	.....	Covt	...	3	UP	.....	I	Russ	D	10.2	.....	Lav	36x4	36x6	Hoo	.....	3300	110	68
Koehler MT.	3275	Her	4 x5½	25.6	L	G	Own	PT	F	Zen	G	Sim	B-Li	DD	Eis	.....	B-Li	A	4	Spic	Math	W	Timk	Flot	9.25	37	Lav	36x4	36x7	Way	.....	5000	129	75
Lombard 140H.P.	.....	Spec 6	5½x6¾	72.7	L	C	Spec	H	F	Strm	P	....	.....	D	....	.....	Spec	A	..	.....	.....	W	.....	.....	.....	.....	.....	Spe	.....	.....	.....	.....	18000	...	90
Lombard 50 H.P.	.....	Spec 4	5 x6¼	40	L	C	Spec	H	F	Strm	P	....	.....	D	....	.....	Spic	A	..	.....	.....	W	.....	.....	.....	.....	.....	Spe	.....	.....	.....	.....	8000	...	85
Mack AB 5-Ton.	3400	Own AB	4 x5	25.6	L	C	Own	C	S	Sheb	G	Own	Own	DD	Tea	.....	Own	U	4	Spic	Mer	C	Own	D	10.5	42.27	Own	36x4	36x4†	Sch	.....	4940	120	....
Mack AC 7-Ton.	4950	Own AC	5 x6	40	L	C	Own	Fin	S	Sheb	G	Own	Own	DP	Tea	.....	Own	UJ	3	Spic	Mer	C	Own	D	10.7	34.60	Own	36x5	40x5†	Sch	.....	7670	119	....
Mack AC 10-Ton.	5500	Own AC	5 x6	40	L	C	Own	Fin	S	Sheb	G	Own	Own	DP	Tea	.....	Own	UJ	3	Spic	Mer	C	Own	D	11.5	37.16	Own	36x6	40x6†	Sch	.....	8250	119	....
Mack AC 13-Ton.	5750	Own AC	5 x6	40	L	C	Own	Fin	S	Sheb	G	Own	Own	DP	Tea	.....	Own	UJ	3	Spic	Mer	C	Own	D	12.9	41.56	Own	36x6	40x12	Sch	.....	8272	119	....
Mack AC 15-Ton.	6000	Own AC	5 x6	40	L	C	Own	Fin	S	Sheb	G	Own	Own	DP	Tea	.....	Own	UJ	3	Spic	Mer	C	Own	D	14.1	45.26	Own	36x7	40x7†	Sch	.....	8650	119	....
*Master DT.	3740	Buda HU	4¼x5½	28.9	L	C	Chic	PT	FS	Mas	V	McC	Full	DP	Eis	.....	Full	U	4	Spic	Det	R	Walk	Flot	8.75	42	Ros	34x4	36x7	Wal	.....	4500	130	76
Walter ST.	4850	Wau DU	4½x6¼	32.4	L	C	Bus	PT	F	Strm	G	Wau	B-Li	DP	Eis	W	War	A	4	Own	....	....	Own	Flot	9	50	Ros	36x6	40x6†	Day	.....	7800	126	80
Watson.	4050	Cont E4	4½x5½	32.4	L	P	Jam	C	FS	Strm	G	Pier	B-Li	DP	Sim	.....	B-Li	U	4	Spic	Shel	W	Timk	Flot	8.75	42.35	Gem	34x4	36x5†	M&C	.....	6500	80	37

ELECTRIC COMMERCIAL CARS

E.C.M. Name and Model Number	Carrying Capacity	Chassis Weight	Chassis Price	Maximum Speed	Battery	Mileage Per Charge	Motor	Controller	Speeds Forward	Drive	Rear Axle	Springs	Front Tires	Rear Tires	Steering Gear	Wheelbase	Per Cent of Weight on Rear Wheels
*Ward WS 2	750	1500	.....	13	Opt	45	G-E	Own	4	W	Shel	Shel	32x3	32x3½	Own	88	60
*C-T BR2B	1000	2100	1600	14	Opt	55	G-E	Own	4	C-T	Flot	Shel	36x3	36x3½	W	92	65
Walker M	1000	2300	.....	15	Opt	60	West	West	5	O	Own	Math	34x3	36x3½	Ross	94	66
Atlantic 1C	2000	2770	.....	12	Opt	.....	G-E	G-E	4	C	Timk	S-El	34x4	36x4	Ross	103	65
Ward WA 2	1250	2350	.....	12	Opt	45	G-E	Own	4	W	Shel	Shel	32x3½	34x4	Own	90	60
Ward WA	1250	2730	.....	12	Opt	45	G-E	G-E	4	W	Shel	Shel	32x3½	34x4	Own	90	60
*C-T BR 2	2000	2400	2150	14	Opt	60	G-E	Own	4	C-T	Flot	Shel	36x3½	36x4	W	101	60
*C-T BR 2A	1500	2200	1975	14	Opt	60	G-E	Own	4	C-T	Flot	Shel	36x3	36x3½	W	91⅝	60
Lansden BG ¾	.....	1400	1600	15	Opt	50	G-E	G-E	4	R	Flot	.....	32x4½	32x4½	Lav	90	50
Lansden MC 1	.....	2900	1850	12	Opt	50	G-E	G-E	4	C	Flot	.....	36x3	36x3½	.....	108	60
*Steinmetz	1500	1900	.....	16½	Opt	50	Diehl	Own	4	R	Own	S-El	33x5	33x5	Lav	114	60
Walker K	2000	2500	.....	14	Opt	60	West	West	5	O	Own	Math	34x3½	36x4	Ross	96	66
*Ward WM	2000	2250	.....	12	Opt	45	G-E	Own	4	W	Shel	Shel	32x3	32x4	Own	88	70
Ward WB	2000	3420	.....	10.5	Opt	40	G-E	G-E	4	W	Shel	Shel	34x4	36x5	Own	102	60
Atlantic 2C	4000	3590	.....	11	Opt	.....	G-E	G-E	4	C	Timk	S-El	34x4	36x3†	Ross	115	65
C-T BR 4	4000	4000	2575	12	Opt	60	G-E	Own	4	C-T	Flot	Shel	36x4	36x4†	W	116	60
Lansden MD 2	.....	4400	2250	11	Opt	50	G-E	G-E	4	C	Flot	.....	36x4	36x3†	.....	120	60
Walker L	4000	3700	.....	13	Opt	60	West	West	5	O	Own	Math	38x4	38x6	Ross	112	66
Ward WD	4000	4500	.....	9	Opt	35	G-E	G-E	4	W	Shel	Shel	36x6	36x7	Own	114	60
Atlantic 3C	7000	5220	.....	10	Opt	.....	G-E	G-E	5	C	Timk	.....	36x5	40x5†	Ross	135	65
C-T AR 7	7000	5000	3550	10	Opt	50	G-E	Own	4	I	Dead	Shel	36x5	36x5†	W	126	60
C-T AK 7	7000	5800	3850	11	Opt	50	G-E	Own	4	I	Dead	Shel	36x6	36x4†	W	122	55
Lansden ME 3½	.....	5700	2950	10	Opt	45	G-E	G-E	4	C	Flot	.....	36x5	36x4†	.....	133	60
Ward WF	7000	6600	.....	8	Opt	30	G-E	G-E	5	W	Shel	Shel	36x6	36x10	Own	132	70
Atlantic 5C	10000	6230	.....	9	Opt	.....	G-E	G-E	5	C	Timk	S-El	36x6	40x5†	Ross	144	65
Couple Gear H	7000	9000	4750	10	Phil	30	Own	Own	5	B	Own	Tut	36x6	36x8	Own	96	55
Couple Gear A	10000	10000	5250	7	Phil	30	Own	Own	5	B	Own	Tut	36x6	36x8	Own	96	75
C-T AK 10	10000	6500	3960	10	Opt	50	G-E	Own	4	I	Dead	Shel	36x7	36x5†	W	132	55
Lansden MT 5	.....	7500	3350	10	Opt	40	G-E	G-E	4	C	Flot	.....	36x6	36x5†	.....	146	60
Lansden MG 6	.....	8900	.....	7	Opt	35	G-E	G-E	4	R	Flot	.....	36x7	36x6†	.....	156	60
Walker P	7000	5300	.....	11	Opt	50	West	West	5	O	Own	Math	36x5	40x5†	Ross	131	66
Walker N	10000	6300	.....	10	Opt	50	West	West	5	O	Own	Math	36x6	40x6†	Ross	141	66
Ward WH	10000	8200	.....	7	Opt	26	G-E	G-E	5	W	Shel	Shel	36x7	40x12	Own	144	70
Atlantic 6C	13000	6940	.....	8	Opt	.....	G-E	G-E	5	C	Timk	S-El	36x6	40x6	Ross	156	65
Couple Gear LD	14000	11000	5900	10	Phil	30	Own	Own	5	B	Own	Tut	36x6	36x8	Own	96	55

Manufacturers and Models Included in Specifications on Preceding Pages

Acason—¾, 1, 1½, 2½, 3½, 5—Acason Motor Truck Co., Detroit Mich.
Ace—1½, 2½—American Motor Truck Co., Newark, Ohio.
Acme—¾, 1, 1½, 2, 2½, 3½, 5—Acme Motor Truck Co., Cadillac, Mich.
Ajax—1½—Ajax Motors Corp., Boston, Mass.
Akron Multi-Truck—1¼—Thomart Motor Truck Co., Kent, Ohio.
American—2½, 4—American Motor Truck & Tractor Co., Portland, Conn.
Apex—1, 1½, 2½, 3½—Hamilton Motor Co., Grand Haven, Mich.
Armleder—1, 2½, 3½—O. Armleder Co., Cincinnati, Ohio.
Atco—1½, 2½—American Truck & Trailer Corp., Kankakee, Ill.
Atlantic—1, 2, 3, 5, 6—Atlantic Electric Vehicle Co., Newark, N. J.
Atlas—1—Atlas Truck Corp., York, Pa.
Atterbury—1½, 2½, 3½, 5—Atterbury Motor Car Co., Buffalo, N. Y.
Autocar—2, 3½, 5½—Autocar Co., Ardmore, Pa.
Available—1½, 2, 2½, 3½, 5, 7—Available Truck Co., Chicago, Ill.
Avery—1—Avery Company, Peoria, Ill.
Bartlett—7—Bartlett Truck Co., Chicago, Ill.
Bell—1, 1½, 2½—Iowa Motor Truck Co., Ottumwa, Ia.
Belmont—1, 1½, 2, 3½—Belmont Motors Corp., Lewistown, Pa.
Bessemer—1, 1½, 2½, 4—Bessemer Motor Truck Co., Grove City, Pa.
Birch—1—Birch Motor Cars, Chicago, Ill.
Bowman—¾—Bowman Motor Car Co., Covington, Ky.
Bridgeport—1½, 2½, 3½—Bridgeport Motor Truck Co., Bridgeport, Conn.
Brinton—1½, 2½—Brinton Motor Truck Co., Philadelphia, Pa.
Brockway—¾, 1½ 2½, 3½, 5—Brockway Motor Truck Co., Cortland, N. Y.
Buffalo—T T—Buffalo Truck & Tractor Corp., Clarence, N. Y.
C. T.—1, 1½, 2, 3½, 5—Commercial Truck Co., Philadelphia, Pa.
Capitol—1½, 2½, 3½—Capitol Motors Corp., Fall River, Mass.
Case—2—J. I. Case Plow Works Co., Racine, Wis.
Chevrolet—¾, 1—Chevrolet Motor Co. of Mich., Flint, Mich.
Chicago—1½, 2½, 3½, 5—Chicago Motor Truck, Inc., Chicago, Ill.
Climber—1½—Climber Motor Corp., Little Rock, Ark.
Clydesdale—¾, 1, 1½, 2½, 3½, 5—Clydesdale Motor Truck Co., Clyde, Ohio.
Collier—1, 1½, 2, 2½—Collier Motor Truck Co., Bellevue, Ohio.
Columbia—1½, 2½—Columbia Motor Truck & Trailer Co., Pontiac, Mich.
Commerce—1¼, 1½, 2, 2½—Commerce Motor Truck Co., Detroit, Mich.
Concord—1½, 2, 2½, 3—Abbott-Downing Truck & Body Co., Concord, N. H.
Corbitt—1, 1½, 2, 2½, 3, 4, 5—Corbitt Motor Truck Co., Henderson, N. C.
Couple Gear—3½, 6—Couple Gear Electric Truck Co., Grand Rapids, Mich.
Cyclone—1½—The Cyclone Motor Corp., Greenville, S. C.
Dart—1½, 2½, 3½—Dart Truck & Tractor Corp., Waterloo, Ia.
Day-Elder—1, 1½, 2, 2½, 3½, 5—Day-Elder Motors Corp., Newark, N. J.
Dearborn—1, 1½, 2—Dearborn Truck Co., Chicago, Ill.
Defiance—1, 1½, 2—Defiance Motor Truck Co., Defiance, Ohio.
Denby—1, 1½, 2, 3, 4, 5—Denby Motor Truck Co., Detroit, Mich.
Dependable—1, 1½, 2, 2½, 3½—Dependable Truck & Tractor Co., East St. Louis, Ill.
Diamond T—1¼, 1½, 2, 3½, 5—Diamond T Motor Car Co., Chicago, Ill.
Diehl—1, 1½—Diehl Motor Truck Works, Philadelphia, Pa.
Doane—2½, 3½, 6—Doane Motor Truck Co., San Francisco, Cal.
Dodge—½—Dodge Bros., Detroit, Mich.
D-Olt—1½—D-Olt Motor Truck Co., Inc., Long Island City, N. Y.
Dorris—2, 3½—Dorris Motor Car Co. St. Louis, Mo.
Dort—½—Dort Motor Car Co., Flint, Mich.
Double Drive—4—Double Drive Truck Co., Chicago, Ill.
Douglas—1½, 2, 3—Douglas Motors Corp., Omaha, Neb.
Drake—2—Drake Motor & Tire Mfg. Corp., Knoxville, Tenn.
Duplex—2, 3½—Duplex Truck Co., Lansing, Mich.
Duty—2—Duty Motor Co., Elgin, Ill.
Eagle—2—Eagle Motor Truck Corp., St. Louis, Mo.
Earl—1—Earl Motors, Inc., Jackson, Mich.
Erie—1½, 2½—Erie Motor Truck Mfg. Co., Erie, Pa.
F. W. D.—3—Four-Wheel Drive Auto Co., Clintonville, Wis.
Facto—2½—Facto Motor Trucks, Springfield, Mass.
Fageol—1½, 2½, 3½, 5—Fageol Motors Co., Oakland, Cal.
Fargo—2—Fargo Motor Truck Co., Chicago, Ill.
Federal—1, 1½, 2, 3½, 5, T.T.—Federal Motor Truck Co., Detroit, Mich.
Ford—1—Ford Motor Co., Highland Park, Mich.
Forschler—1, 1½, 2, 3—Forschler Motor Truck Mfg. Co., New Orleans, La.
Front Drive—1½—Double Drive Truck Co., Chicago, Ill.
Fulton—1, 2, T.T.—Fulton Motors Corp., Farmingdale, N. Y.
G. M. C.—1, 2, 3½, 5—General Motors Truck Co., Pontiac, Mich.
G. W. W.—1½—Wilson Truck Mfg. Co., Henderson, Ia.
Garford—¾, 1¼, 2, 3½ 5, 7½—Garford Motor Truck Co., Lima, O.
Gary—1½, 2½, 3½, 5—Gary Motor Truck Co., Gary, Ind.
Gersix—1½, 2½, 3—Gersix Mfg. Co., Seattle, Wash.
Giant—1½, 2½, 3½, 5—Giant Truck Corp., Chicago Heights, Ill.
Globe—¾—Globe Motors Co., Cleveland, Ohio.
Gove—2½—Gove Motor Car Co., Detroit, Mich.
Graham—1½—Graham Brothers, Evansville, Ind.
Gramm-Bernstein—1, 1½, 2, 2½, 3, 3½, 5—Gramm-Bernstein Motor Truck Co., Lima, Ohio.
Hal-Fur—2, 3½—Hal-Fur Motor Truck Co., Cleveland, Ohio.
Hall—2½, 3½, 5, 7—Lewis-Hall Motors Corp., Detroit, Mich.
Hendrickson—2½, 3½, 5—Hendrickson Motor Truck Co., Chicago, Ill.
Highway-Knight—4, 5—Highway Truck Corp., Chicago, Ill.
Higrade—1, 1½—Higrade Motors Co., Harbor Springs, Mich.
Holmes—2—Holmes Motors Mfg. Co., Littleton, Colo.
H. R. L.—¾, 1½, 2½—H. R. L. Motor Co., Seattle, Wash.
Huffman—1½—Huffman Bros. Co., Elkhart, Ind.
Hurlburt—1½, 2½, 3½, 5—Harrisburg Mfg. & Boiler Co., Harrisburg, Pa.
Huron—1½, 2½—Huron Truck Co., Bad Axe, Mich.
Independent—1½, 2½, 3½—Independent Motor Co., Youngstown, Ohio.
Independent—1, 1½, 2½—Independent Motor Truck Co., Inc., Davenport, Ia.
Indiana—1½, 2, 2½, 3½, 5—Indiana Truck Corp., Marion, Ind.
International—1, 1½, 2, 3, 5—International Harvester Co., Chicago, Ill.
Italia—2, 3, 5—Italia Motor Truck Co., San Francisco, Cal.
Jackson—3½—Jackson Motors Corp., Jackson, Mich.
Jumbo—1½, 2, 2½, 3, 3½, 4—Nelson Motor Truck Co., Saginaw, Mich.
Kalamazoo—1½, 2½, 3½—Kalamazoo Motor Corp., Kalamazoo, Mich.
Kearns—¾, 1½—Kearns-Dughie Motors Co., Danville, Pa.
Kelly-Springfield—1½, 2½, 3½, 5, 6—Hare's Motors, Inc., New York, N. Y.
Keystone—2—Keystone Motor Truck Corp., Philadelphia, Pa.
Kimball—2, 2½, 3, 4, 5—Kimball Motor Truck Co., Los Angeles, Cal.
Kissel—1, 1½, 2½, 4, 5—Kissel Motor Car Co., Hartford, Wis.

Kleiber—1, 1½, 2, 2½, 3½, 5—Kleiber & Co., Inc., San Francisco, Cal.
Koehler—1½, 2½, 3½, T.T.—H. J. Koehler Motors Corp., Bloomfield, N. J.
Lange—2—Lange Motor Truck Co., Pittsburgh, Pa.
Lansden—¾, 1, 2, 3½, 5, 6—Lansden Company, Danbury, Conn.
Larrabee-Deyo—1½, 2½, 3½, 5—Larrabee-Deyo Motor Truck Co., Inc., Binghamton, N. Y.
Lombard—T.T.—Lombard Auto Tractor Truck Corp., New York, N. Y.
Luedinghaus—1, 1½, 2—Luedinghaus-Espenschied Wagon Co., St. Louis, Mo.
Luverne—2, 3,—Luverne Automobile Co., Luverne, Minn.
Maccar—1½, 2, 2½, 3½, 5—Maccar Truck Co., Scranton, Pa.
MacDonald—7—MacDonald Truck & Tractor Co., San Francisco, Cal.
Mack—1½, 2, 2½, 3½, 5, 6½, 7½, T.T.—International Motor Co., New York, N. Y.
Master—1½, 2½, 3½, 5, T.T.—Master Trucks, Inc., Chicago, Ill.
Maxwell—1½—Maxwell Motor Co., Inc., Detroit, Mich.
Menominee—1, 1½, 2, 3½, 5—Menominee Motor Truck Co., Menominee, Mich.
Moline—1½—Moline Plow Co., Moline, Ill.
Moreland—1½, 2½, 4, 5—Moreland Motor Truck Co., Los Angeles, Cal.
Mutual—2, 2½—Mutual Truck Co., Sullivan, Ind.
Napoleon—¾, 1, 1½—Napoleon Motors Co., Traverse City, Mich.
Nash—1, 2—Nash Motors Co., Kenosha, Wis.
Nelson-LeMoon—1½, 2½, 3½, 5—Nelson & LeMoon, Chicago, Ill.
Netco—2, 2½—New England Truck Co., Fitchburg, Mass.
Niles—2—Niles Motor Truck Co., Pittsburgh, Pa.
Noble—1½, 2, 2½, 3½—Noble Motor Truck Co., Kendallville, Ind.
Northway—2, 3½—Northway Motors Co., Natick, Mass.
Norwalk—1, 1½—Norwalk Motor Car Co., Martinburg, W. Va.
O. K.—1½, 2½, 3½—Oklahoma Auto Mfg. Co., North Muskogee, Okla.
Ogden—1½, 2½, 3½, 5—Ogden Motor Truck Co., Chicago, Ill.
Old Reliable—1½, 2½, 3½, 5, 6—Old Reliable Motor Truck Co., Chicago, Ill.
Oldsmobile—1—Olds Motor Works, Lansing, Mich.
Olympic—2½—Olympic Motor Truck Co., Tacoma, Wash.
Oneida—1½, 2½, 3½, 5—Oneida Motor Truck Co., Green Bay, Wis.
Oshkosh—2, 2½—Oshkosh Motor Truck Mfg. Co., Oshkosh, Wis.
Packard—2, 3, 5—Packard Motor Car Co., Detroit, Mich.
Paige—1½, 2½, 3½—Paige-Detroit Motor Car Co., Detroit, Mich.
Parker—2, 3½, 5—Parker Motor Truck Co., Milwaukee, Wis.
Pierce-Arrow—2, 3½, 5—Pierce-Arrow Motor Car Co., Buffalo, N. Y.
Pioneer—1—Pioneer Truck Co., Chicago, Ill.
Pittsburger—2½—Pittsburgh Truck Mfg. Co., Pittsburgh, Pa.
Power—1½, 3½—Power Truck & Tractor Co., St. Louis, Mo.
Premocar—1½—Preston Motors Corp., Birmingham, Ala.
Rainier—¾, 1, 1½, 2, 2½, 3½, 5—Rainier Motor Corp., Flushing, L. I., N. Y.
Ranger—2—Southern Motor Mfg. Ass'n, Ltd., Houston, Tex.
Reliance—1½, 2½—Reliance Motor Truck Co., Appleton, Wis.
Reo—1¼—Reo Motor Car Co., Lansing, Mich.
Republic—¾, 1, 1½, 2½, 3½—Republic Motor Truck Co., Inc., Alma, Mich.
Riker—3, 4—Locomobile Co. of America, Bridgeport, Conn.
Rowe—1½, 2, 3, 4, 5—Rowe Motor Mfg. Co., Lancaster, Pa.
Rumely—1½—Advance-Rumely Thresher Co., Inc., La Porte, Ind.
Samson—¾, 1¼—Samson Tractor Co., Janesville, Wis.
Sandow—1, 1½, 2, 2½, 3½, 5—Sandow Motor Truck Co., Chicago, Ill.
Sanford—2½, 3½, 5—Sanford Motor Truck Co., Syracuse, N. Y.
Schacht—2, 3, 4, 5, 7—G. A. Schacht Motor Truck Co., Cincinnati, O.
Schwartz—1¼, 1½, 2½, 5—Schwartz Motor Truck Co., Reading, Pa.
Selden—1½, 2½, 3½, 5—Selden Truck Corp., Rochester, N. Y.
Seneca—½—Seneca Motor Car Co., Fostoria, Ohio.
Service—1¼, 1½, 2, 2½, 3½, 5—Service Motor Truck Co., Wabash, Ind.
Signal—1, 1½, 2½, 3½, 5—Signal Motor Truck Co., Detroit, Mich.
Southern—1, 1½, 2—Southern Truck & Car Corp., Greenboro, N. C.
Standard—1, 2½, 3½, 5—Standard Motor Truck Co., Detroit, Mich.
Steinmetz—¾—Steinmetz Electric Motor Car Corp., Baltimore, Md.
Sterling—1½, 2, 2½, 3½, 5, 7½—Sterling Motor Truck Co., Milwaukee, Wis.
Stewart—¾, 1, 1½, 2, 2½, 3½—Stewart Motor Corp., Buffalo, N. Y.
Stoughton—¾, 1, 1½, 2, 3—Stoughton Wagon Co., Stoughton, Wis.
Success—2½—Webberville Truck Co., Webberville, Mich.
Super Truck—2½, 3½, 5—O'Connell Motor Truck Co., Waukegan, Ill.
Superior—1, 2—Superior Motor Truck Co., Atlanta, Ga.
Tiffin—1½, 2½, 3½, 5, 6—Tiffin Wagon Co., Tiffin, Ohio.
Titan—2½, 3½, 5—Titan Truck Co., Milwaukee, Wis.
Tower—1½, 2½, 3½—Tower Motor Truck Co., Greenville, Mich.
Traffic—1½, 2, 3—Traffic Motor Truck Corp., St. Louis, Mo.
Transport—1, 1½, 2½, 3½—Transport Truck Co., Mt. Pleasant, Mich.
Traylor—1½, 2, 3, 4, 5—Traylor Eng. & Mfg. Co., Cornwells, Pa.
Triangle—¾, 1½, 2, 2½—Triangle Motor Truck Co., St. Johns, Mich.
Triumph—1½, 2, 2½—Triumph Truck & Tractor Co., Kansas City, Mo.
Twin City—2, 3½—Minneapolis Steel & Mach. Co., Minneapolis, Minn.
Ultimate—1½, 2, 2½, 3—Vreeland Motor Co., Inc., Newark, N. J.
Union—2½, 4, 6—Union Motor Truck Co., Bay City, Mich.
United—1½, 2½, 3½, 5—United Motors Co., Grand Rapids, Mich.
Ursus—1, 1½, 2½, 3½—Ursus Motor Co., Inc., Chicago, Ill.
U. S.—1½, 3, 4, 5—United States Motor Truck Co., Cincinnati, Ohio.
Velie—1½—Velie Motors Corp., Moline, Ill.
Vim—½, 1, 2, 3—Vim Motor Truck Co., Philadelphia, Pa.
Vulcan—2½—Vulcan Mfg. Co., Seattle, Wash.
Walker—½, 1, 2, 3½, 5—Walker Vehicle Co., Chicago, Ill.
Walker-Johnson—2½—Walker-Johnson Truck Co., Woburn, Mass.
Walter—2, 2½, 3½, 5, 7—T. T. Walter Truck Co., New York, N. Y.
Ward—¼, 1, 2, 3½, 5—Ward Motor Vehicle Co., Mt. Vernon, N. Y.
Ward La France—2½, 3½, 5—Ward La France Truck Co., Inc., Elmira, N. Y.
Watson—¾, 3½, T.T.—Watson Wagon Co., Canastota, N. Y.
White—¾, 2, 3½, 5—White Co., Cleveland, Ohio.
White Hickory—1, 1½, 2½—White Hickory Motor Corp., Atlanta, Ga.
Wichita—1, 1½, 2, 2½, 3, 3½, 5½—Wichita Falls Motors Co., Wichita Falls, Tex.
Wilcox—1, 1½, 2½, 3½, 5—Wilcox Trux, Inc., Minneapolis, Minn.
Wilson—1½, 2½, 3½, 5—J. C. Wilson Co., Detroit, Mich.
Winther—1, 1½, 2, 2½, 3½, 5, 7—Winther Moter Truck Co., Kenosha, Wis.
Wisconsin (Loganville)—2, 2½—Wisconsin Truck Co., Loganville, Wis.
Wisconsin (Sauk City)—1, 1½, 2½, 3½—Wisconsin Farm Tractor Co., Sauk City, Wis.
Witt-Will—1½, 2—Witt-Will Co., Inc., Washington, D. C.
Wolverine—1, 1½, 2, 2½, 3½—American Commercial Car Co., Detroit, Mich.
Yellow Cab—¾, 1¼—Yellow Cab Mfg. Co., Chicago, Ill.
Young—1, 2, 3½—The Young Motor Truck Co., Euclid, Ohio.

Gar Wood in New Enterprise

Detroit has a new industry in the Detroit Marine Aero Engine Co., which is being organized and will have a factory located in Highland Park. Men prominent in the motor boat world are among the incorporators of the concern, but officers have not yet been selected. Among the incorporators are: Garfield A. Wood, A. A. Schantz, Otto E. Barthel, Fred R. Still, and J. Lee Barrett of Detroit; James A. Allison and Carl G. Fisher of Indianapolis.

The men interested in the organization of the new company recently completed negotiations with the government for the purchase of fifty car loads of aviation engines and accessories. Shipment of these materials and power plants are now under way from government depots all over the country and this cleans up all the excess stock of foreign aviation engines which became the property of the U. S. government at the close of the war. The engines include a large number of the Italian Fiats, with numerous Benz, Mercedes, Isotta-Fraschini and Beardmore types. The spare parts stock for all engines is adequate to take care of replacements and accessories include tachometers, spark plugs, etc.

The new company expects to sell the engines as they stand for aviation purposes but also to rebuild them for adaptation to marine installations for which recent experiments have proven them to be well adapted. The factory and other preliminary plans for the company have been arranged by Gar Wood of Detroit.

Motor Truck Show Right in Your Office

The January issue of the COMMERCIAL CAR JOURNAL will be the 1922 Motor Truck Show. In it will be exhibited 1922 trucks, parts and equipment. Topics invaluable to every dealer will also be discussed at this show. Among the subjects are: "Prospects for 1922"; "Brief of Six Good Merchandizing Plans"; "Trend of Design and Analysis of Types." Don't fail to be present at the show. Regular subscribers already have tickets. Others pay the admission fee of one dollar.

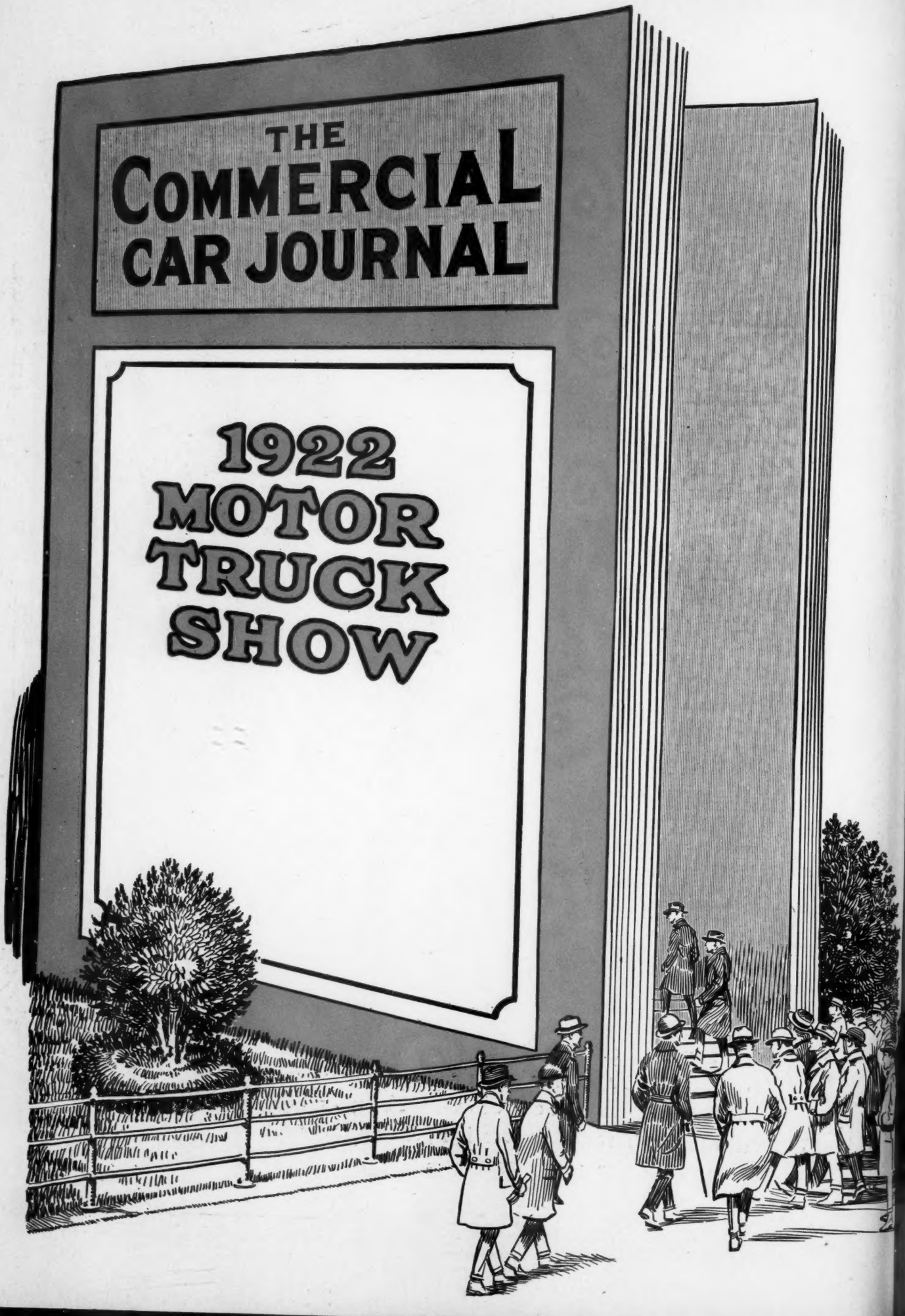
Chamberlain Made Packard General Sales Manager

The Packard Motor Car Co. announces the advancement of R. E. Chamberlain to the position of general sales manager of the company.

Mr. Chamberlain joined the Packard organization in 1916 as truck sales manager of the New York City branch after a successful administration as Philadelphia manager for the Garford Motor Truck Co. Shortly after his New York appointment, he was brought to the Packard factory as truck sales manager. His recent advancement marks a rise from the position of assistant general sales manager, which position he has occupied since December 4, 1920.

Motor vehicles are building up the schools in North Carolina, in the opinion of the Fayetteville Observer. "Who ever thought," this paper observes, "that education and gasoline would hitch up together in the cause of the country school? And yet such has come to pass in the consolidated school plan. The children of the district are conveyed to and from the school in motor trucks."

Thousands of color posters, like the above, 22 x 34, have been sent broadcast throughout the truck industry to inform the trade where the 1922 Motor Truck Show will be held. This, together with continuous, forceful advertising, has acquainted the industry's buyers with the place and time of the 1922 Motor Truck Show.


THE
COMMERCIAL
CAR JOURNAL
1922
MOTOR
TRUCK
SHOW

WHERE THE 1922 MOTOR TRUCK SHOW WILL BE HELD

Not in New York or Chicago.

But in the January COMMERCIAL CAR JOURNAL.

Instead of floor space you will buy type space. In place of physical exhibits you will display photographs and text. Where, before, buyers have come to the Shows—this year the Show will go to the buyers.

But still the Show—the annual focal point of interest for the entire industry.

Thousands of important buyers, in their offices and homes, will carefully see this great "Show" and make their decisions as to what lines to sell in 1922.

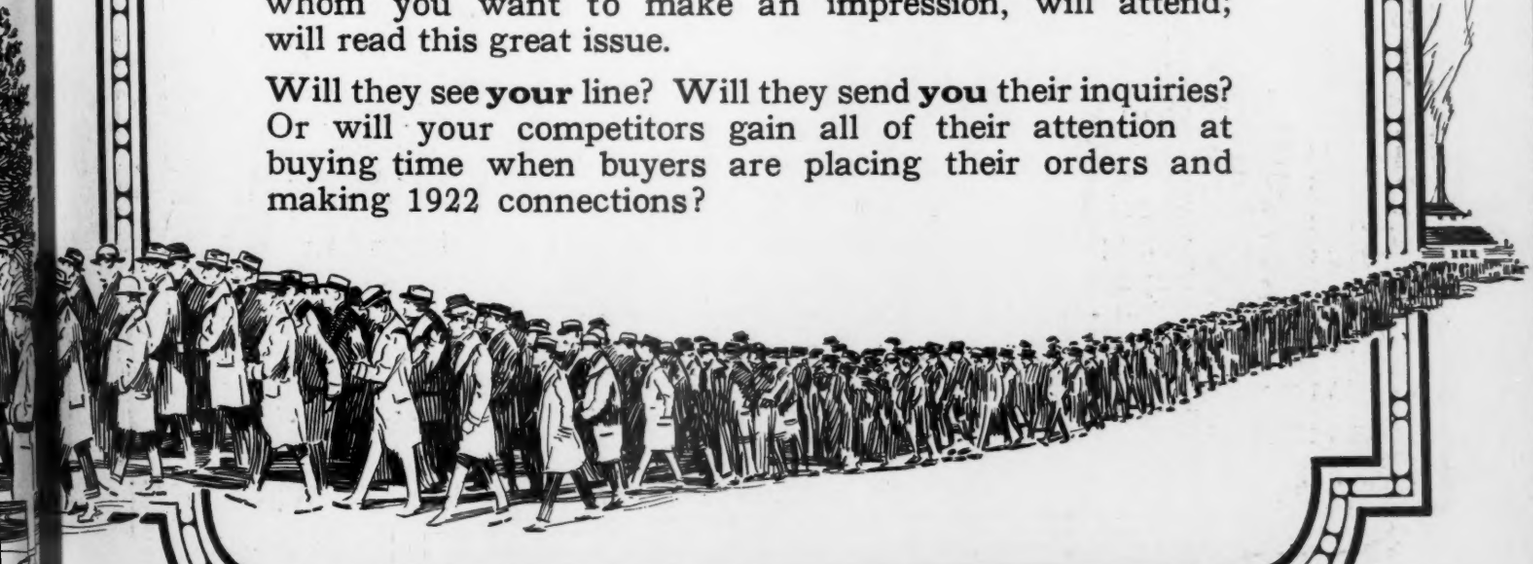
Show time! Buying time! COMMERCIAL CAR JOURNAL time! **Your** time to annex new dealers and to bag good distributors.

15,000 copies will be distributed to the very cream of the buyers in the truck industry.

Ask yourself this question: "Can I afford to remain out of this great national Show?"

Thousands of important buyers whom you want to sell, on whom you want to make an impression, will attend; will read this great issue.

Will they see **your** line? Will they send **you** their inquiries? Or will your competitors gain all of their attention at buying time when buyers are placing their orders and making 1922 connections?



HOT SPARKS

The only National Motor Truck Show planned for 1922.

Attendance—15,000 important quality and quantity buyers.

Admission—Single copies, $1.00 each.

Choice Display Locations—Awarded concerns taking page space or more in two big, special Show Sections. (1) Motor Trucks. (2) Motor Truck Equipment.

The special Show Sections will receive closest scrutiny of the trade.

Will be seen and used by buyers everywhere.

Timely—This great "Show" will reach buyers at purchasing time; at the beginning of the year, when they are seeking information about new lines and preferable connections.

Extensive editorial comment, valuable feature articles, countless photographs, 1922 specifications, important information in hundreds of special advertisements, combined, will give the motor truck trade more real value than any other former truck show—local or national.

A small sum buys a conspicuous position in one of the Special Show Display Sections. The "Show" will place your product and sales message before 15,000 important buyers—the cream of the Motor Truck Trade.

Commercial Car Journal

Market and 49th Sts. **Philadelphia, Pa.**

Activities of the Motor Truck Association of Philadelphia

RENEWED interest in the Motor Truck Association of Philadelphia was shown Wednesday evening, Nov. 16, at an exceptionally large turnout of its members at the second monthly meeting of the season at the Hotel Adelphia.

A most interesting message was delivered by J. H. Feely, of the Autocar Co., on the increased tendency on the part of manufacturers, distributors and salesmen to merchandise the motor truck and kindred products on a cleaner and better basis than heretofore.

An interesting message was also brought to them by Rev. Robert Norwood, D.C.L., a well-known writer and lecturer, who spoke on "Facing Ourselves." The meeting was presided over by the president, Walter Y. Anthony, and Secretary Metcalf read some letters of particular interest to the trade.

Mr. Feely's address was a presentation of correlated facts, showing the importance of selling of motor trucks on a clean, business-like basis. The predominating feature brought out by Mr. Feely was the necessity of presenting prospective owners honest facts concerning the merits of the truck which is represented by the salesman. A square deal is imperative.

Mr. Feely said in part: "There is no question about the fact that the tendency of companies in the automotive industry is to a clean policy in all business relations with the motor truck user. Experience has taught that honesty is the best policy after all. A cleaner policy pursued by a business will also result in the securing of a better class of salesmen. Another damaging influence to the growth of better business principles is that much abused practice of extending too much credit on the used truck for trade-ins. This is not only expensive to the dealer but is the cause for the public's general disrespect for the automotive business as a whole. This mode of merchandising must be abolished. Misrepresentation and knocking should be things of the past."

Mr. Feely said that the successful type of salesman is a man who gives his prospect common sense information, a man who can analyze, and a man who can convince his prospect how he will save money through the use of his truck. If the salesman knows his product, he knows of what he is speaking and consequently receives the attention of his prospect.

Mr. Anthony called for a larger attendance at the next meeting in December at which the annual election of officers will be made. He also pointed out that the campaign for membership was meeting with continued success. He believes that with the growing membership the power of the Association will eventually become so strong as to enable it to combat any adverse legislation that the future might bring forth.

The nominating committee presented the following names for office to be voted upon at the December meeting: For president, Thos. K. Quirk; vice-president, D. H. Zimmerman; secretary, W. H. Metcalf; treasurer, W. Ross Walton; directors for two years, Walter Y. Anthony and H. A. Neill; directors for three years, W. A. Manwaring, G. B. Shearer and H. O. Stehling.

Metal and Rubber Markets

Little Movement in Steel. Market Quiet and Easy. Prices Show Downward Tendency

Outside of diminutive purchases by the railroads the market is quiet and apparently likely to remain so for the balance of the year. Prices show a tendency to soften on competition for the light business offering.

There has been a slight demand at best from industrial consumers. With the general subsiding of demand for steel, demand for scrap has also weakened.

Steel Products Prices

Per ton—Pittsburgh—	
Bessemer billets	28 00 a 30 00
Open hearth	28 00 a 30 00
Forging billets	32 00 a 35 00
Sheet bars	30 00 a .....
Slabs	30 00 a 31 00

Sheets

The following prices are for 100-bundle lots and over, f.o.b. mill:

Blue Annealed Sheets—	
Pittsburgh (base)	2 25 a 2 50
Philadelphia	2 60 a .....
New York	2 63 a .....
Galvanized Sheets—	
Pittsburgh	3 75 a 4 00
New York	4 13 a 4 38

Finished Iron and Steel

Tank plates, Pittsburgh	1 50 a 1 60
Tank plates, New York	1 88 a 1 95
Steel bars, Pittsburgh	1 50 a 1 60
Steel bars, New York	1 88 a 1 98

Iron and Steel at Pittsburgh

Bessemer iron	21 96 a .....
Skelp, grooved steel	1 60 a 1 65
Skelp, sheared steel	1 60 a 1 65
Strip steel, cold	3 75 a 4 00
Strip steel, hot	2 00 a 2 25
Ferromanganese (78-82%)	60 00 a 65 00
Steel bars	1 50 a 1 60
Steel, melting scrap	14 00 a 14 50

Miscellaneous Metals

Copper sheets	21 00 a .....
Copper rolls	19 50 a .....
Copper bottoms	28 50 a .....
Seamless tubing, bronze	20 50 a .....
Seamless tubing, copper	21 00 a .....
Seamless low brass tubing	19 50 a .....
Seamless high brass tubing	18 00 a .....
Brazed tubing, brass	25 00 a .....
Brazed tubing, bronze	29 75 a .....
Brazed tubing, copper	29 75 a .....

Antimony

There is no improvement in demand and the market remains quiet and weak at current quotations.

Manganese

Demand continues quiet, and in the absence of important business the market remains unchanged.

Old Metals

The market is quiet and practically unchanged.

Aluminum—	Buying.	Selling.
Cast scrap	8 a 8¼	9 a 9¼
Sheet scrap	7 a 7½	8¼a 8½
Clippings	11½a12	13 a14
Copper—		
Heavy machinery comp.	7¼a 7½	8¼a 8½
Light and bottoms	7⅜a 8	8½a 9
Heavy, cut and crucible	9¾a10¼	11 a11½
Brass, heavy	4¼a 4½	4¾a 5
Brass, casting	5¼a 5½	5¾a 6¼
Brass, light	3¾a 4	4¾a 5
No. 1 cl. brass turnings	4 a 4⅛	4½a 4¾
No. 1 comp. turnings	5¾a 6	6¼a 6½
Solder joints	5 a 5⅛	5½a 5¾

Rubber Closed Easier

Tone of plantation rubber market easier.

Para—Up-river, lb.	23½ a ..
*Up-river, coarse	14 a 14½
*Island, fine	22 a ..
Island, coarse	10 a ..
Cameta	11 a ..
Amber—No. 1	17½ a ..
No. 2	17 a ..
No. 3	.. a 16½
Smoked ribbed sheets	18¼ a ..
*Centrals—Corinto	.. a 12½
*Esmeralda	.. a 12½
*Mexican scrap	.. a 11
*Guayule, wet	.. a 12
*Guayule, dry	.. a 26
*Balata, block, Trinidad	.. a 56½
*Balata, block, Colombian	.. a 44
*Balata, Panama	.. a 42
*Balata, sheet	.. a 68

* Nominal.

Scrap Rubber

No material improvement in demand or prices.

Inner tubes, No. 2	.. a 2
Inner tubes, No. 1	.. a 4¼
Tires, automobile	½ a ..

Price List of Truck Pneumatic Tire Casings, With Capacities and Inflation Pressures of Larger Sizes

	30 3½	32 4	34 4	32 4½	34 4½	33 5	34 5	35 5	36 x 6			38 x 7			40 x 8			42 x 9			44 x 10		
									Price	Carrying Capacity	Inflation Pressure	Price	Carrying Capacity	Inflation Pressure	Price	Carrying Capacity	Inflation Pressure	Price	Carrying Capacity	Inflation Pressure	Price	Carrying Capacity	Inflation Pressure
Achilles Rubber & Tire Co., Binghampton, N. Y.																							
Achilles Cord, non-skid	36.00	39.35	41.65	44.80	48.45	56.75	74.25	59.75	96.25	2200	90	148.00	3000	100	.....	....	...	.....	....	...	.....	....	...
Acme Rubber Mfg. Co., Trenton, N. J.																							
Acme Cord, non-skid	.....	32.00	34.00	41.00	43.00	52.00	.....	54.00	82.00	2200	90	115.00	3000	100	.....	....	...	.....	....	...	.....	....	...
Ajax Rubber Co., Inc., New York, N. Y.																							
Ajax Cord, non-skid	18.00	32.40	34.25	41.90	43.90	52.15	53.45	54.75	78.55	2000	90	113.85	3000	100	146.65	4000	100	.....	....	...	.....	....	...
Amazon Rubber Co., Akron, O.																							
Amazon Cord, non-skid	18.00	34.40	36.55	41.90	43.90	52.15	.....	54.75	78.05	2200	90	.....	....	...	.....	....	...	.....	....	...	317.25	6000	130
American Rubber & Tire Co., Akron, O.																							
American Cord, non-skid	20.50	34.00	36.00	43.75	45.25	54.25	57.50	56.75	82.65	2300	90	115.40	3100	100	148.70	4100	110	.....	....	...	.....	....	...
Armstrong Rubber Co., Inc., Garfield, N. J.																							
Armstrong Super Size Cord, non-ski	18.90	34.00	36.00	44.00	46.05	54.75	.....	57.50	86.00	2200	90	121.00	3000	100	156.00	4000	110	.....	....	...	.....	....	...
Beacon Tire Co., Inc., Beacon, N. Y.																							
Beacon Rib Skid Cord (Red Seal)	30.30	46.30	48.95	52.35	54.90	65.20	.....	68.45	110.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Bergougnan Rubber Corp., Trenton, N. J.																							
Bergougnan Cord, non-skid	18.90	34.00	35.95	44.00	46.10	54.75	.....	57.50	119.70	2000	90	161.10	2700	100	202.50	4000	110	.....	....	...	.....	....	...
Bleckre Tire & Rubber Co., St. Paul, Minn.																							
Bleckre Cord, non-skid	.....	33.45	35.40	41.95	43.90	52.20	.....	54.70	97.50	2200	90	.....	....	...	156.75	4000	110	.....	....	...	.....	....	...
Braender Rubber & Tire Co., Rutherford, N. J.																							
Braender Bull-Dog Super, non-skid	18.00	32.40	34.25	41.90	43.90	52.15	.....	54.75	78.55	2200	90	113.85	3000	100	146.65	4000	110	.....	....	...	.....	....	...
Brunswick-Balke-Collender Co., Chicago, Ill.																							
Brunswick Cord, non-skid	20.00	32.50	34.50	42.70	44.85	53.20	53.75	57.50	80.45	2200	90	113.85	3000	100	146.65	4000	110	.....	....	...	.....	....	...
Burdick Tire & Rubber Co., Noblesville, Ind.																							
Air Bag Cord, non-skid	39.50	58.75	62.25	67.25	70.50	80.00	.....	83.00	143.00	2200	90	184.00	3000	100	238.00	4000	110	198.36	5000	120	.....	....	...
Canton-Blackstone Co., Youngstown, O.																							
Canton Cord, non-skid	20.00	32.40	34.25	41.90	43.90	52.15	.....	54.75	91.85	2200	90	128.25	3000	100	165.20	4000	110	.....	....	...	.....	....	...
Combination Rubber Mfg. Co., Bloomfield, N. J.																							
Combination Viking Cord, non-skid	18.00	32.40	34.25	41.90	43.90	52.15	.....	54.75	82.65	2200	90	.....	....	...	148.70	4000	110	.....	....	...	.....	....	...
Dayton Rubber Mfg. Co., Dayton, Ohio																							
Thorobred Cord, non-skid	21.95	37.25	40.20	45.50	47.10	56.40	58.05	59.50	86.95	2200	90	120.10	3000	100	155.20	4000	110	.....	....	...	.....	....	...
Empire Tire & Rubber Co., Trenton, N. J.																							
Empire Cord, non-skid	19.50	32.40	34.25	41.90	43.90	52.15	55.40	54.75	79.30	2000	90	112.20	2700	100	144.55	3650	110	.....	....	...	.....	....	...
Erie Tire & Rubber Co., Sandusky, O.																							
Erie Cord, non-skid	19.60	37.05	39.15	41.90	43.90	52.15	53.90	56.75	90.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Excel Rubber Co., Wadsworth, Ohio																							
Flint Cord, non-skid	24.50	46.30	48.95	52.35	56.50	65.20	.....	68.45	120.00	2200	90	170.00	3000	100	215.00	4000	110	.....	....	...	.....	....	...
Falls Rubber Co., Cuyahoga Falls, O.																							
Falls Cord, non-skid	19.50	34.00	36.50	43.25	45.75	60.00	62.50	65.00	92.00	2200	90	125.00	3000	100	160.00	4000	110	.....	....	...	.....	....	...
Federal Rubber Co. of Ill., Cudahy, Wis.																							
Federal Cord, non-skid	17.75	31.00	33.00	43.50	46.00	49.00	56.00	57.25	80.00	2300	90	115.00	3000	100	150.00	4000	110	.....	....	...	.....	....	...
Firestone Tire & Rubber Co., Akron, O.																							
Firestone Cord, non-skid	24.50	46.30	48.95	52.35	54.90	65.20	66.80	68.45	91.85	2200	90	128.25	3000	100	165.20	4000	110	.....	....	...	.....	....	...
Fisk Rubber Co., Chicopee Falls, Mass.																							
Fisk Cord, non-skid	17.85	30.50	32.50	43.00	46.50	54.00	55.25	56.50	77.00	2200	90	107.00	3000	100	136.00	4000	110	.....	....	...	.....	....	...
Gates Rubber Co., Denver, Colo.																							
Gates Cord, non-skid	19.85	35.65	37.70	42.80	44.80	53.20	61.60	55.90	85.40	2200	90	121.20	3000	100	156.50	4000	110	.....	....	...	.....	....	...
General Tire & Rubber Co., Akron, O.																							
General Cord, non-skid	19.70	34.95	37.85	44.45	46.55	54.90	53.75	60.90	83.40	2000	90	116.30	3000	100	153.15	4000	110	.....	....	...	.....	....	...
Gillette Rubber Co., Eau Claire, Wis.																							
Gillette Cord, non-skid	19.25	32.50	34.50	42.70	44.85	53.20	.....	55.85	78.55	2200	90	113.85	3000	100	146.65	4000	110	239.95	5000	120	334.30	6000	130
Goodrich, B. F., Rubber Co., Akron, O.																							
Goodrich De Luxe Cord	18.00	32.40	34.25	41.90	43.90	52.15	.....	54.75	82.65	2200	90	115.45	3000	100	148.70	4000	110	.....	....	...	.....	....	...
Goodyear Tire & Rubber Co., Akron, O.																							
Goodyear Cord, non-skid	18.00	32.40	34.25	41.90	43.90	52.15	53.50	54.75	82.65	2200	100	115.40	3000	110	148.70	4000	120	238.90	5000	130	333.90	6000	140
Hewitt Rubber Co., Buffalo, N. Y.																							
Hewitt Cord, non-skid	18.75	32.40	34.25	41.90	43.90	52.15	56.00	54.75	82.65	2200	90	115.46	3000	100	.....	....	...	.....	....	...	.....	....	...
Hood Rub. Prod. Co., Inc., Watertown, Mass.																							
Hood Cord, non-skid	.....	33.45	35.40	41.95	43.90	52.20	53.50	54.70	97.50	2200	90	123.50	3000	100	156.75	4000	110	.....	....	...	.....	....	...
Howe Rubber Corp., Inc., New Brunswick, N. J.																							
Howe Ultra Cord, non-skid	.....	36.75	39.40	42.25	44.20	52.00	53.20	54.30	85.00	2200	90	120.00	3000	100	.....	....	...	.....	....	...	.....	....	...
India Tire & Rubber Co., Akron, O.																							
India Cord. non-skid	19.95	34.90	37.10	42.30	44.40	52.30	.....	54.40	109.45	2200	90	155.40	3000	100	198.55	4000	110	.....	....	...	.....	....	...
Iowa Cord Tire Co., Inc., Des Moines, Ia.																							
Iowa Cord, non-skid	22.65	38.00	40.21	43.01	45.09	53.55	.....	56.19	79.77	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Kelly-Springfield Tire Co., New York, N. Y.																							
Kelly-Springfield Cord, Kant Slip	18.95	32.75	34.95	42.40	44.30	52.30	.....	54.40	90.90	2200	90	121.50	3000	100	157.50	4000	110	.....	....	...	.....	....	...
Kenyon Co., Inc., Brooklyn, N. Y.																							
Kenyon Cord, non-skid	17.50	31.50	33.50	38.50	41.50	52.15	.....	54.75	80.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...

Keystone Tire & Rubber Co., New York, N. Y.																							
Keystone Cord, non-skid	19.90	32.90	34.90	41.90	44.85	52.90	.....	54.75	82.90	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Kokomo Rubber Co., Kokomo, Ind.																							
Kokomo Cord, non-skid	18.00	32.40	34.25	46.10	48.30	57.35	.....	60.25	81.30	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Lee Tire & Rubber Co., New York, N. Y.																							
Lee P. P. Cord	24.75	38.30	41.15	54.25	56.75	64.50	66.25	67.75	98.50	1970	90	135.05	2720	100	173.75	3595	110	.....	....	...	.....	....	...
McClaren Rubber Co., Charlotte, N. C.																							
Autocrat Cord, non-skid	18.75	32.50	34.50	42.80	44.85	53.20	.....	55.95	82.65	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
McGraw Tire & Rubber Co., Cleveland, O.																							
McGray Cord, non-skid	18.00	32.40	34.25	41.90	43.90	52.15	.....	54.75	78.05	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Madison Tire & Rubber Co., New York, N. Y.																							
Madison Cord, non-skid	21.00	39.00	41.00	44.00	46.50	55.00	.....	57.50	88.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Majestic Tire & Rubber Co., Indianapolis, Ind.																							
Majestic Cord, non-skid	26.35	37.65	39.85	42.55	44.70	53.00	.....	53.00	91.85	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Marathon Tire & Rubber Co., Cuyahoga Falls, O.																							
Marathon Cord, non-skid	19.90	32.40	34.25	41.90	43.90	52.15	.....	54.75	82.65	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Mason Tire & Rubber Co., Kent, O.																							
Mason Cord, non-skid	18.75	31.95	33.05	40.05	42.25	50.80	52.60	52.50	80.40	22.00	90	110.40	3000	100	142.20	4000	110	.....	....	...	.....	....	...
Mellinger Tire & Rubber Co., Kansas City, Mo.																							
Mellinger Cord, non-skid	25.90	44.10	46.55	49.75	52.25	62.10	.....	65.00	110.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Michelin Tire Co., Milltown, N. J.																							
Michelin Cord, non-skid	19.50	35.10	37.50	47.50	49.50	60.20	61.50	62.50	86.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Mid-Continent Tire Mfg. Co., Wichita, Kans.																							
Midco Cord, Universal	25.00	51.05	53.50	58.80	61.90	73.30	.....	77.20	125.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Miller-Anderson Rubber Works, Anderson, Ind.																							
Double-Anchored Cord	17.00	29.95	31.85	39.35	41.35	49.00	.....	51.45	107.93	2200	90	118.58	3000	100	156.74	4000	110	176.47	5000	120	247.32	6000	130
Miller Rubber Co., Akron, O.																							
Miller Cord, "Geared-to-the-Road"	18.00	32.40	34.25	41.90	49.05	52.15	56.05	61.00	78.05	2200	100	113.85	3000	110	146.65	4000	120	236.25	5000	130	330.00	6000	140
Mohawk Rubber Co., Akron, O.																							
Mohawk Cord, non-skid	26.50	34.10	36.10	44.10	46.20	55.00	56.50	57.65	87.00	2200	90	121.50	3000	100	156.50	4000	110	.....	....	...	.....	....	...
Norwalk Tire & Rubber Co., Norwalk, Conn.																							
Norwalk Cord, non-skid	17.50	33.00	36.20	42.70	44.75	53.20	.....	55.90	75.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Oldfield Tire Co., Akron, O.																							
Oldfield Cord, anti-skid	18.45	33.20	35.00	42.95	45.00	53.45	.....	56.10	93.70	2200	90	130.80	3000	100	168.50	4000	110	.....	....	...	.....	....	...
Owen Tire & Rubber Co., Cleveland, O.																							
Owen Cord, non-skid	21.00	35.00	37.00	39.00	42.00	49.00	.....	50.00	75.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Pennsylvania Rubber Co., Jeannette, Pa.																							
Pennsylvania Cord, non-skid	23.75	32.50	34.50	41.90	43.95	52.20	53.95	54.80	84.95	2200	90	105.95	3000	100	149.95	4000	110	.....	....	...	.....	....	...
Perfection Tire & Rubber Co., Fort Madison, Ia.																							
Perfection Cord, non-skid	19.60	37.05	39.15	41.90	43.90	52.15	53.45	54.75	90.90	2200	90	121.50	3000	100	157.50	4000	110	.....	....	...	.....	....	...
Powertown Tire Corp., Rochester, N. Y.																							
Powertown Cord, non-skid	23.30	39.10	41.00	49.70	53.10	61.00	.....	63.20	95.90	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Quaker City Rubber Co., Philadelphia, Pa.																							
Quaker City Cord, non-skid	23.75	32.50	34.50	45.00	47.50	53.50	55.90	56.25	85.00	2200	90	115.50	3000	100	.....	....	...	.....	....	...	.....	....	...
Racine Rubber Co., Racine, Wis.																							
Racine Multi-Mile Cord	18.00	32.40	34.25	41.90	43.90	52.15	.....	54.75	87.25	2200	90	126.50	3000	100	162.95	4000	110	.....	....	...	.....	....	...
Republic Rubber Co., Youngstown, O.																							
Republic Card, non-skid	18.30	32.50	34.50	42.70	44.85	53.20	.....	55.85	82.65	2200	90	115.45	3000	100	148.70	4000	110	.....	....	...	.....	....	...
Samson Tire & Rubber Corp., Los Angeles, Calif.																							
Samson Super Size Cord, non-skid	27.50	37.60	39.90	49.40	52.60	61.50	63.80	65.70	85.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Sprague Tire & Rubber Co., Omaha, Neb.																							
Sprague Cord, non-skid	.....	32.50	34.50	41.90	44.30	.....	.....	54.75	90.90	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Spreckles "Savage" Tire Co., San Diego, Cal.																							
Spreckles Savage Cord	.....	35.50	37.80	46.80	48.00	57.40	.....	60.00	90.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Standard Four Tire Co., Keokuk, Iowa																							
Standard Cord, non-skid	.....	32.50	34.50	42.70	44.85	53.20	.....	55.85	85.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Standard Tire Co., Willoughby, O.																							
Tiger Foot, non-skid	25.90	43.50	46.00	49.20	51.60	61.25	.....	64.35	95.50	2200	90	135.00	3000	100	.....	....	...	.....	....	...	.....	....	...
Star Rubber Co., Akron, O.																							
Star Cord, All Star	28.00	46.20	49.00	53.00	55.00	65.50	.....	68.50	108.00	2200	90	143.00	3000	100	.....	....	...	.....	....	...	.....	....	...
Meteor Cord, non-skid	.....	47.40	50.20	54.25	56.25	67.00	68.50	70.00	108.00	2200	90	143.00	3000	100	186.00	4000	110	.....	....	...	.....	....	...
Sterling Tire Corp., Rutherford, N. J.																							
Sterling Cord, non-skid	18.75	30.00	31.25	36.00	38.00	43.00	.....	45.00	80.00	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
Swinehart Tire & Rubber Co., Akron, O.																							
Swinehart Cord, non-skid	20.00	35.20	37.25	45.55	47.70	56.70	.....	62.60	82.80	2200	90	115.65	3000	100	.....	....	...	.....	....	...	.....	....	...
Syracuse Rubber Co., Inc., Syracuse, N. Y.																							
Syracuse Syra-Cord, non-skid	18.30	32.50	34.50	42.45	44.50	52.85	.....	55.50	78.55	2200	90	113.85	3000	100	146.65	4000	110	.....	....	...	.....	....	...
Thermoid Rubber Co., Trenton, N. J.																							
Thermoid cord, non-skid	.....	36.80	39.45	42.65	44.55	52. 95	.....	55.80	84.15	2200	90	118.80	3000	100	.....	....	...	.....	....	...	.....	....	...
Traveler Rub. Co. of Bethlehem, Bethlehem, Pa.																							
Traveller Cord, non-skid	19.60	36.60	38.65	41.45	43.50	51.30	.....	53.90	83.60	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...
United States Tire Co., New York, N. Y.																							
United States Cord, non-skid	.....	.....	.....	.....	47.25	.....	54.10	58.90	78.55	2200	90	113.85	3000	100	146.65	4000	110	.....	....	...	.....	....	...
Victor Rubber Co., Springfield, Ill.																							
Victor Cord, non-skid	19.00	34.10	36.05	41.90	43.90	52.15	53.50	54.75	82.65	2200	90	.....	....	...	.....	....	...	.....	....	...	.....	....	...

Taken From Current House Organs

The Philosophical Attitude

True Efficiency

The truly efficient man is calm, poised and balanced. He knows how far he can modify and influence both his own life and the lives of those about him. He realizes that life is a sort of obstacle race that would soon lose its zest and flavor if the impediments were removed, and he accepts both in times of peace and in times of stress the fact that some of the hindrances will be serious.

Because he has a keen sense of human limitations, he enjoys at the same time a true acknowledgment of human power. He does not expect that his life will be a triumphal journey from birth to the grave; he knows there will come times when his judgment is inadequate solely to compass the whole problem: but best of all, he defines that these acute and overwhelming situations are only acute and overwhelming **relatively,** and that the time element in evolution does much to put things in their proper places; to smooth out the difficulties.

Personal responsibility and personal achievement are great ideals, but it is well to know that they have their boundaries; that they are not infinite. There comes a time when the efficient man relaxes and leaves his problem to work itself out in accordance with the laws of nature. You cannot grow men and affairs under glass as you would hothouse products because men and affairs are in and of themselves beyond your personal control. An element of the Godhead enters somewhere even in the most sordid transactions and this element baffles your shrewdest schemes. Is it then the part of the efficient man to stamp his foot in petulance (for it is that), to become worried, morose, vindictive, to vent his spite upon the helpless people about him? Is the efficient man justified in sounding the clarion call to do more, more and ever more, regardless of the quality if it is done, regardless of the price that is paid by the doers?—*Helix*, Greenfield Tap & Die Corp., Springfield, Mass.

Past Performance

"Dear H. T. B." writes one of my good friends, "Do you recall, not so long ago you wrote about 'Past Performance' in which you said, among other things, that living in an atmosphere of today—doing just a little more than you are paid to do brings the worth while things in life?"

And then this same chap made me quite happy when he said in the same letter that the article in question helped him to find himself and suggested that it be reprinted in Truck Transportation.

If this helped only one man then I feel quite satisfied, and with the thought in mind that it may find a responsive chord here I gladly repeat the article in question, which by the way was printed in our internal house organ "Selden Spirit," on November 5, 1920. Here is what I said.

There is nothing worse for a weakling than small success. The really strong and big man tosses it beneath his feet as a step to higher things; he squeezes it into its proper place as a layer in the life he is building. If his memory dwells on past performance for a moment it is only because of its valuable lesson, not because of itself is it a theme for vanity. Finer natures often experience a keen depression and a sense of littleness in the pause that follows a success.

But the fool is so swollen by thought of his victory of what he thinks he has done, that he is unfit for all healthy work until somebody pricks him and lets the gas out. He never forgets the great things he fancies he did and he expects the world never to forget them either. He is the sort who is always telling how the business should be run or that a hundred concerns are seeking his services, or worse: WHAT HE HAS DONE.

The more of a weakling he is, the more he thinks of himself; and the more he thinks of himself the more it satisfies his poor soul and prevents him essaying another brave venture in the business world. His petty achievement ruins him, when it should do naught but elevate his ideals and create the desire to accomplish something new, big and worth while.

The memory of what he has done never leaves him, but the idea swells to balloon-like proportions that lifts him off his feet and carries him Heaven high—till the darn thing bursts, and he is landed with a thud to the level where he belongs.

Let your motto be—TODAY and TOMORROW, rather than yesterday or the day before.

The chap who is hitting the trail, doing new things—big constructive things doesn't "give a tinker's darn" about past performances; with him, as I said before, it's TODAY and TOMORROW—not yesterday or the day before.—*Truck Transportation*, Selden Truck Corp., Rochester, N. Y.

The Secret of Leadership

Why Not Practice It Secretly?

The longer one studies into anything (even the most minute) the more it gives up complexities. A drop of water, an atom of hydrogen, any little thing is the starting point of an arduous intellectual journey. Hence the unlimited supply of theses for a Doctor of Philosophy degree.

It is easy to see that the fundamental of leadership is **character;** that without it the leader must be bolstered up like an undermined tower, but other qualities are called for.

Character, nevertheless, is what we check first. A leader must have in his character, honesty, kindliness, patience (but not resignation) persuasiveness and genuine love for his fellow men.

He must have **capacity.** It is not essential that he should know everything under the sun, but he must be able to comprehend quickly the information brought him by his helpers. Judgment, experience and decision lie in this quality.

How many men discover themselves leaders, of a sudden—forced into the position by circumstance? It would be interesting indeed if we could get some leaders to disclose to us their feelings and thought when they made such a discovery! Isn't it likely that the large majority of leaders (and of course that means men in executive positions) have gone through that exact experience?

It goes without saying that every man who becomes a leader, even in times of revolution and crisis, has within him some of the qualities indicated.

Finally, the question follows: why shouldn't every ambitious man prepare himself for leadership, in the days of his semi-obscurity by conscientiously applying to the things he is doing at that time the qualities of character and capacity? Why don't more people try it?—*Helix*, Greenfield Tap & Die Corp., Springfield, Mass.

A New and Practical Idea in the Distribution of Poultry Feed

The idea originating from a Dodge Bros. dealer resulted in the construction of a special body fitted to house twelve hens, completely display various grains and provides sleeping quarters for two men. With this outfit the salesman drives into the farmyard and prepares for a complete demonstration. Thus expert attention can be given to the particular needs of the farmer.

Personals

Charles Addams, formerly sales engineer with the Standard Roller Bearing Co., of Philadelphia, Pa., has become identified with the Bearings Co. of America, as its sales engineer in the eastern territory.

W. C. Anderson, former foreign sales executive of the Ford Motor Co., has organized the Anderson Sales Co., New Market Bank Bldg., St. Louis. The new firm will market the Brevard Light, a farm lighting installation.

Jules Berthier has been elected president of the Bergougnan Rubber Corp., of Trenton, N. J., succeeding H. H. Coleman, who recently resigned. The firm has decided on a new sales policy, and has adopted the "air bag" process in the manufacture of its tires.

A. H. Bishop has been re-elected president of the Baltimore Automobile Trade Association. Frank M. Olmstead has been named secretary-treasurer.

Clyde P. Brewster, active in the automotive industry from its early days, has been elected vice president and general manager of the Express Spark Plug Co., Alexandria, Va.

Robert E. Brown is announced as treasurer of the Dayton Rubber Manufacturing Co., Dayton, O. The firm reports that its business in 1921 will amount to twice the volume in 1920, and that even a greater amount of business is expected for 1922.

H. J. Butler has resigned as general manager of the Oneida Truck Co. to become assistant general sales manager of the Walker Vehicle Co. He will have charge of all western and central territory under C. A. Street, general sales manager, and will give special attention to sales in Chicago Territory.

Gordon Cameron has been announced as director of service at the Republic Truck Sales Corp., Alma, Mich. Mr. Cameron was for ten years with the Maxwell Motor Co.

L. H. Earle, eastern sales manager, Engine Division, for the Buda Company of Harvey, Ill., has moved his office from 1216 Aeolian Hall, 33 W. 42d St., New York City, to 30 Church St., that city.

C. A. Engleman has been appointed assistant sales manager of the New Era Spring and Specialty Co., Grand Rapids, Mich., to assist Sales Manager L. M. Bradley and President Smalley Daniels in putting into effect the sales policies of the firm.

E. H. Fitch, for several years with the B. F. Goodrich Rubber Co., and recently made director of sales of The Diamond Rubber Co., has been appointed by the Federal Court as manager of the Republic Rubber Corp., Youngstown, O., under Receiver C. H. Booth.

Myron E. Forbes, who has so capably managed the treasureship of the Pierce-Arrow Motor Car Co., has been advanced to the position of vice president of that company. Mr. Forbes has served with Deere & Co. and the Syracuse Chilled Plow Co. During the war he acted as vice president and general manager of the Dayton-Ohio Production Co., of Dayton, producing shell forgings. He was called to the Pierce-Arrow factory in August, 1919.

Frank M. Germane, well known throughout the automotive industry, has resigned as director and sales manager of the Marlin-Rockwell group. Mr. Germane is not disclosing his plans for the future.

Ralph S. Hayes, formerly transportation engineer for the sales and service departments of the Pierce-Arrow Motor Car Co., Buffalo, N. Y., has been made assistant truck sales manager of that company.

Arthur G. Hertzler has resigned as sales manager of the Bearings Company of America, Lancaster, Pa., where he has been connected for eighteen years. Mr. Hertzler left recently for his new home in Salt Lake City, Utah. His future plans are unknown.

Frederic A. James, for the past six years in charge of service at the Timken-Detroit Axle Co., will take care of the motor car parts service department of C. H. Wills & Co., Marysville, Mich.

P. G. McConnell, formerly a department manager of the Belden Mfg. Co., has entered the field for himself under the title of the McConnell Cable & Specialty Co., 426 South Clinton St., Chicago, Ill., specializing in the manufacture of automobile timer sets, special cords and connectors.

E. Linn Mathewson has been appointed sales manager for J. W. Leavitt & Co., California Oldsmobile distributors. He succeeds G. W. Delano, who has been transferred to the Los Angeles branch of the Leavitt Co.

George C. McDonald, for fifteen years identified with the steel castings industry in Detroit, has become associated with the Detroit Steel Castings Co., of Monroe, Mich., to be in charge of sales.

J. D. Mooney has resigned as general manager of the Remy Electric Co., of Anderson, Ind., to assume his duties as operating vice president of the General Motors Export Co., with headquarters at New York. I. J. Reuter will fill the position vacated by Mr. Mooney.

John G. Painter, for a number of years sales manager of Continental Motors Co., has recently joined the Detroit Pressed Steel Co., as special representative in the Disteel Wheel factory sales division.

Geo. A. Richards, for the past twelve years in the sales department of the Firestone Tire & Rubber Co., Akron, O., and more recently district manager in charge of manufacturers' business at Detroit, has resigned.

J. E. Simonds has resigned from the U. S. Tractor and Machinery Co., of Menasha, Wis., as export manager. Mr. Simonds was formerly connected with the Duplex Engine Governor Co. as Chicago manager for a period of over five years. His future plans are unknown.

Factory News and Capital Increases

The Excel Rubber Co., of Wadsworth, O., has been placed in operation following a shutdown for reorganization. Dr. F. W. Boyer has been elected president, succeeding Ross Trump.

The Franklin Automobile Co., Syracuse, N. Y., announces that from January 1 to November 1 it has sold direct to the public capital stock to the amount of $2,515,700.

Robert H. Hassler, Inc., Indianapolis, Ind., maker of shock absorbers, has broken ground for a new building, which will add 15,000 sq. ft. of floor space to the present plant. The company is planning the erection of another building in the spring.

The Electric Auto-Lite Corp., Toledo, O., announces through its president, C. O. Miniger, that it will increase its force to 2100 employes after the first of the year.

The Campbell, Wyant & Cannon Foundry Co., of Muskegon, Mich., expects to have the first of the eight units of its new plant now under construction ready by the first of January, 1922. The first unit will permit the doubling of the company's output and working force. The business of the firm has increased so rapidly that great expansion was necessary.

The Yellow Cab Manufacturing Co., 5801 W. Dickens Ave., Chicago, has adopted a manufacturing program which calls for production of twice as many cabs as were built in the past year. No new orders were accepted for delivery from the plant during November and December, the orders on file being great enough for the factory to handle.

The Syracuse Rubber Co., Syracuse, N. Y., reports that it has enjoyed during September and October the largest business in its existence. This business increase is attributed to a new sales plan put into effect last summer by the company.

The General Forgings Corp., Detroit, Mich., has begun operations on the first unit of its large plant. The site comprises about 10 acres, and the building under construction covers an area 80 x 300 ft. It is planned to have the plant ready for production in 90 days.

The Stoughton Wagon Co., Stoughton, Wis., manufacturer of Stoughton trucks, recently had one of its factory buildings occupied by the assembly room, parts stock room, paint shop and machine shop of the Motor Truck Division, destroyed by fire. The loss was approximately $400,000, which is covered by insurance. There will be no interruption in production and work on a new group of buildings for the Truck Division will start immediately.

New Incorporations

The Davis Tire and Motor Parts Co. has been chartered at Nashville, Tenn., to wholesale tires, motor parts and accessories. Capital stock is $100,000.

The Glenwood Auto Supply Co., 537 Mercer St., Jersey City, N. J., has been incorporated under the laws of New Jersey to deal in automobile supplies. The firm is capitalized at $125,000.

The Kendell Engineering Co., 12 North American Bldg., Fort Wayne, Ind., has been formed by C. A. and R. L. Kendell, formerly connected with the Chopa Piston Ring Co., as Detroit branch manager and sales manager, respectively. The new firm will enter the automotive field with the Kendell Piston Ring.

The Berryman Rubber and Tire Corp. has been incorporated in Manhattan, N. Y., to manufacture tires and tubes at a capitalization of $200,000. The incorporator is H. M. Wise, 7 Dey St., New York City.

The Grigsby Grunow-Hinds Co., 906 West Lake St., Chicago, Ill., has been formed to manufacture automobile accessories. The firm will be operated by B. J. Grigsby, O. E. Grigsby, W. C. Grunow and O. Q. Hinds, who recently resigned from the Anderson Electric & Equipment Co.

The Levasseur Motor Car Co. has been incorporated at Lewiston, Maine, to deal in motor vehicles, bicycles, trucks, accessories, garage equipment, etc. The capitalization is $200,000.

The Harrisburg Stanley Spring Works, Inc., has been granted articles of incorporation at Wilmington, Del., to engage in the manufacture of automobiles and the parts for same. Capitalization is $600,000.

The Howe Rubber Co., manufacturer of tires, recently incorporated in Illinois to carry on an automobile business in that state. The capital stock is $4,000,000. The business is to be located at 134 LaSalle St., Chicago.

Removals and Trade Changes

The Lovejoy Manufacturing Co. announces its removal from 1040 Commonwealth Ave. to 39 Brighton Ave., Boston, Mass.

Advance Automobile Accessories Corp., Chicago, has absorbed the Rochester Woven Belting Corp., of East Rochester, N. Y. The consolidation is made to provide increased capacity for the latter company's goods.

The Wilcox Trux, Inc., has acquired the interest of F. E. Satterlee as receiver of the H. E. Wilcox Motor Co., by purchase of the assets of the receivership estate. All future business in connection with the manufacturing, sales and service of Wilcox Trux will be handled by Wilcox Trux, Inc., 1030 Marshall St., N. E. Minneapolis, Minn.

Literature

The Heil Co., Milwaukee, Wis., has issued an attractive blue catalog, No. 120, on bodies and hoists which it manufactures. The Heil combination bump body, asphalt body, garage body, lumber and coal body, etc., are described in detail.

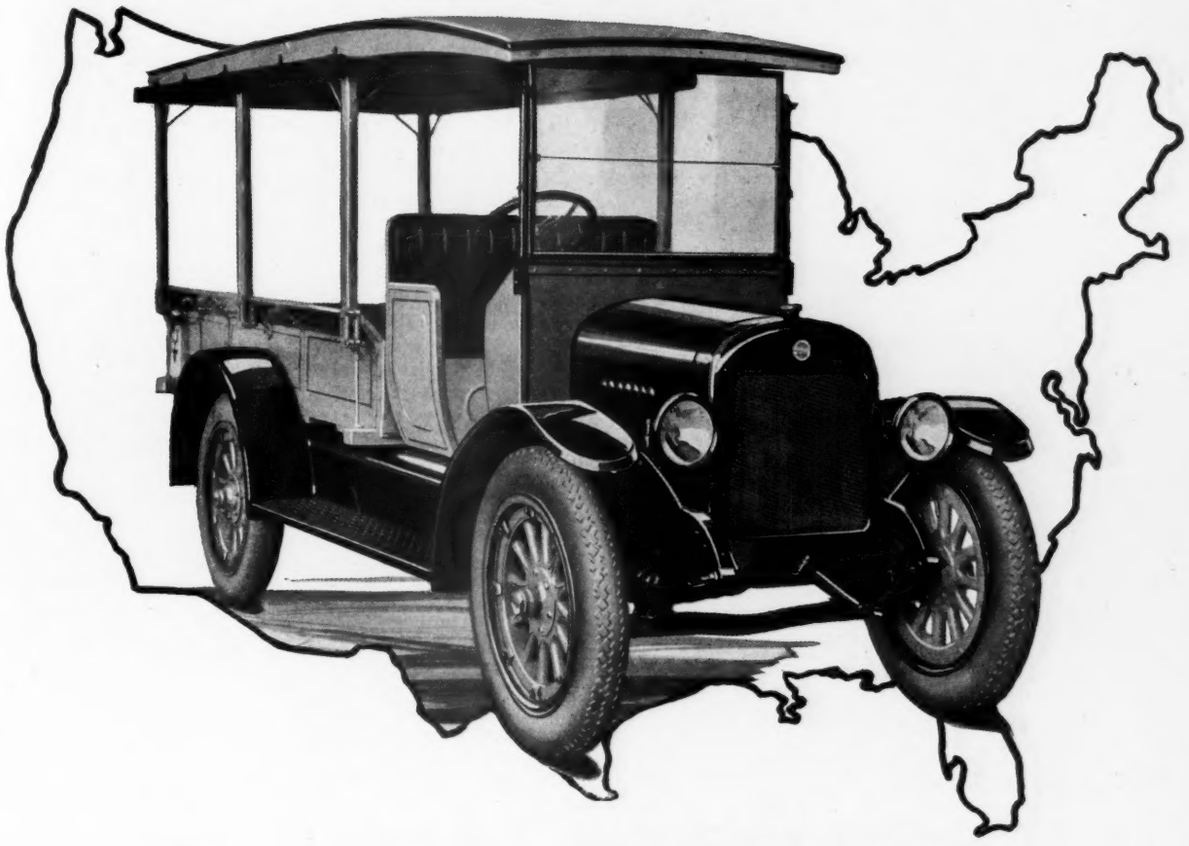
The Bosch News, the monthly organ of the American Bosch Magneto Corp., of Springfield, Mass., contains in its December issue a number of timely and interesting articles and descriptions. There is a helpful article, entitled "The Shiny Shoe," which can be read profitably by accessory dealers.

Motor Truck Transportation, by F. Van Z. Lane, C. E., is published by D. Van Nostrand Co., 8 Warren St., New York City. The work is a brief presentation of the principles that govern successful motor truck operation. There are several helpful chapters on Operating Cost Factors and Records, Transportation Laws, as applied to operating costs and Maintenance. Price, postpaid, $2.

The Engineering Advertising Association, of Chicago, Ill., whose membership includes a number of well-known automobile men, is now publishing a monthly bulletin in the interest of its members. The current copy includes an address by Kenneth Groesbeck, vice president of the Harry Porter Co., of New York, on "The Baconian Theory of Advertising."

The Oliver-Barth Jack Co., Milwaukee, Wis., a new corporation which succeeds the Oliver Mfg. Co., of Chicago, and the Barth Mfg. Co., of Milwaukee, both of which have been manufacturing jacks for 30 years, has just issued its first satalog illustrating its combined lines. The booklet has 12 pages, which the company describes as a "convenient reference book on jacks, illustrating all the various jack models made by the company."

Modern Cutting and Grinding is the new publication of Oakley Chemical Co., 22 Thames St., New York City. It is a carefully prepared study and analysis of the above-named subject, with some useful shop tables of grinding and cutting speeds, standard measurements, etc. Sent on request.



Overnight Distribution

A History-Making Tribute from America's Truck Dealers

Ordinarily **the introduction of a new motor truck is a heart-breaking task. America is a big country. Dotting the map with dealers usually means long and persistent labor.**

The RUGGLES Truck is the exception. Dealers know of Frank W. Ruggles and his past success. When the word flashed that Mr. Ruggles had entered the truck business for himself, dealers closed territory in short time.

Almost **overnight there was secured a creditable market for the high-quality, low-priced RUGGLES. Dealers who had shared prosperity with Mr. Ruggles in the past, hastened to secure agencies for the RUGGLES Trucks.**

Your territory may still be open. If so it offers you a sales opportunity of unusual advantage. Write or wire for literature and complete data.

RUGGLES MOTOR TRUCK COMPANY, Saginaw, Michigan
Canadian Factory, Ruggles Motor Truck Co., Ltd., London, Ont., Canada

RUGGLES MOTOR TRUCK CO. RUGGLES SAGINAW, MICH. U.S.A.

This emblem stands for quality

The World's Greatest Truck Value

RUGGLES

What Are the Essential Requisites of Good Salesmanship?

IN a recent issue of the Republic Round Table, F. H. Akers, assistant general sales manager of the Republic Truck Sales Corp., Alma, Mich., set forth in clear and concise language several major factors that can be considered as concrete in nature and usable for measuring the qualities of a salesman.

Qualities of value in salesmanship, if considered from every angle, are almost innumerable. And it is an impossibility for the average man to absorb and apply all of them. But he should learn to apply the rudimentary essentials. In some cases we find a man who has been endowed by nature with an inherent and instinctive ability. Such a man, however, comes but once in a lifetime.

The successful salesman of today is the analyst, the man who can cull from a mass of generalities the high-lights, nucleus or meat, and who can observe and cash-in on deductions drawn from personal experiences. This man is more than analyst, he is a psychologist.

Six Success Essentials

However, it is not enough to be master of this alone, there are other and more common essentials to be considered. These, although very apparent major factors, are the ones most frequently neglected by many salesmen. This neglect is really the root of all the evils resulting in inefficient salesmanship.

These essentials are as follows:

(1) A willingness to work incessantly.

(2) A firm belief that the product he is selling represents the best value for the price asked, and implicit confidence in the good intentions of his distributor and the manufacturer.

(3) Always tell the truth and never exaggerate.

(4) Intimate knowledge of the product he is selling and that of his competitors.

(5) Ability to quickly gain and retain the confidence of the prospective buyers. To realize that his own interests are best served by furthering the interests of his employer.

(6) Due regard for the merits of the other fellow's product, and the ability to indicate the superiorities of his own product without derogatory inference to competitive lines.

All salesmen recognize the importance of the foregoing cardinal factors, and yet, particularly in the automotive industry, they are shamefully neglected. The first essential, especially, is found wanting in most salesmen today. Is this a condition resulting from a lack of principle and system on the part of the salesman, or is it because of the fact that the human when left to his own resources has an irresistible tendency toward laziness? Laziness probably deserves the major part of the discredit. Of course, the degree of laziness varies with the man, but the fact remains that laziness is there, and it is up to the individual to fight this tendency with might and main.

A conscientious application of the above six essentials in all business relations will result in a reward. The reward will be the constructing of a habit, a habit of doing business in accordance with the best code of ethics. This habit once gained will take the irk out of irksome, and make real work in selling a big pleasure. What better reward could any full-blooded man want?

In analyzing the aforementioned essentials, Mr. Akers brings out the following points:

1. The lack of willingness to work incessantly, on the part of the average salesman, is undoubtedly one of the greatest weaknesses in most sales organizations. Lack of aggressiveness and initiative has been one of the greatest weaknesses. It seems to be quite the habit for the average salesman to come drifting into the sales offices between the hours of eight and nine, and commence the day's business by spending an hour or so glancing over the morning paper. By ten o'clock is ready for work——? His next move is the telephone.

Don't Get in This Class

If he gets his party he immediately imparts the knowledge to him that at his convenience he intends to call relative to the sale of a truck. This sort of tactics immediately offers the prospective buyer the opportunity to forestall the proposed visit and advise the salesman that he does not contemplate placing his order for a few days. Perhaps the average salesman following the above methods makes one personal call during the forenoon. The greater portion of the afternoon is wasted in a more or less similar manner. Perhaps he has called upon three people at most. By five o'clock he has concluded that nothing more worth while can be accomplished that day, and argues himself into believing that business is rotten in general, or more particularly with the line he is supposed to be selling.

2. The salesman who is not thoroughly sold on the product he is representing should immediately do one of two things: Get a new job, or else convince himself that the article he is attempting to merchandise really does represent the best value per dollar. It is next to impossible for the conscientious salesman to make any sort of headway in trying to merchandise a product that, in his own mind, does not represent all that he claims for it.

The successful truck salesman should be aiming constantly to develop himself into a transportation engineer, for, in the last analysis, he is not really selling a truck, but transportation. He should obtain all data possible dealing with transportation costs.

3. Always tell the truth in making a sale. Even a single statement on the part of a salesman, the accuracy of which is slightly questioned by the prospect, generally proves to be an insurmountable handicap. It is far better to under-state rather than over-state. YOU NEVER GET A MAN'S MONEY UNTIL YOU GET HIS CONFIDENCE.

4. No man can know too much about the merits of his products. The public is rapidly acquiring a surprising amount of information regarding automotive equipment, and the salesman who attempts to sell trucks without an intimate knowledge of ALL COMPETITIVE TRUCKS is handicapped to such an extent that he will ultimately fail. It is quite the habit of the purchaser to ask questions, particularly if the salesman has gotten him to the point of interest.

5. The tendency is far too great among certain retail salesmen, particularly those who work on a commission basis, to absolutely refuse to take any interest in the organization except it be in the direct prosecution of sales. They seem to entirely ignore the fact that by contributing to the success and furthering the good will of the distributor, they are helping materially in reducing the sales resistance which may be encountered by any product that his distributor may be offering for sale. They should also retain a strong personal interest in those to whom they have sold trucks. Interest shown after the sale is made really impresses the buyer, and an occasional call as the salesman is passing by, or a general inquiry as to how the truck is performing, makes a decidedly favorable impression upon the owner. And quite often he is more than glad to give you the name of one or two business acquaintances who may be in the market for a truck.

Concerning the "Knocker"

6. It is a habit that is entirely too prevalent among average truck salesmen to speak disrespectfully of competitive trucks. This is undoubtedly due to lack of knowledge on the part of the salesman regarding his own product, just as it is true that the individual who uses excessive profanity does so largely because of his too limited vocabulary. While the old slogan, "Every knock is a boost," is not literally true, it is to a large degree true when the knock comes from one with a biased viewpoint. It is far better to omit dwelling on any merits of a competitive truck, and in a diplomatic and tactful way, to point out the features of superiority in your own truck.

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SELLING TRANSPORTATION

Selden 1922 Sales Policy Advantages

A Selden Unit for Every Purpose

UNIT NO. 30—Heavy Duty 1½ Tons, Light Duty 2½ Tons
UNIT NO. 50—Heavy Duty 2½ Tons, Light Duty 3½ Tons
UNIT NO. 70—Heavy Duty 3½ Tons, Light Duty 5 Tons
UNIT NO. 90—Heavy Duty 5 Tons, Light Duty 7 Tons
UNIT NO. 31—Special motorbus chassis with maximum capacity of 36 passengers
UNIT NO. 51—Special motorbus chassis with maximum capacity of 60 passengers

Trucks should be purchased to do a certain work economically and efficiently. Truck ratings then are of little importance as far as purchasing goes. The buyer should not be sold merely a 1½ Ton or 2½ Ton Truck, but a truck that will handle his transportation at minimum cost.

In some cases a truck rated 1½ tons will easily do the work of a higher rated truck. The dealer who can furnish the lighter and cheaper truck, guaranteed to do the work, and have the factory back of him, he is the dealer who will get the business.

And that is the SELDEN Sales Policy. Not to sell a man a 1½ ton truck to do 2½ ton work—no. But to analyze the conditions and sell him the PROPER TRANSPORTATION UNIT TO DO THAT WORK ECONOMICALLY.

WRITE for a detailed explanation of this policy and let us show you just what it means to dealers in sales advantages. SELDEN TRUCKS will bring business to dealers in '22. Will you be one?

"TRUCK TRANSPORTATION" will be mailed free to all interested upon receipt of request to Dept. CO
SELDEN TRUCK CORPORATION
Rochester, N. Y.

SELDEN TRUCK CORPORATION, Rochester, N. Y., U. S. A.

Selden Motor Trucks